STATE OF WASHINGTON

HIGHER EDUCATION COORDINATING BOARD

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PRELIMINARY BOARD MEETING AGENDA
The Evergreen State College Longhouse, Rooms 1007 & 1007a
2700 Evergreen Parkway N.W., Olympia 98505
April 14, 1999

Approximate Times		Tab
8:00 a.m.	**Board Breakfast & Meeting Overview**	
9:00 a.m.	**Welcome & Introductions**	
	Approval of HECB Minutes, February, 1999	1

> **Work Session: 2000 Master Plan for Higher Education**   2
> - Master Plan Policy Paper #3: E-learning
> - Master Plan Policy Paper #1A: Enrollment Goals
> - Master Plan Policy Paper #4: Capacity

B R E A K

Public Comments re: 2000 Master Plan for Higher Education

TESC Program Highlights
- President Jane Jervis

11:15 a.m.	**Teacher Education Panel** • SBE, OSPI, CSL, WADCTE	3
12:00 noon	L U N C H (Possible Executive Session)	
1:00 p.m.	C O N S E N T A G E N D A	

TESC BA in Community-Determined Native American Studies, Statewide   4
- (*Resolution 99-11*)

WSU BA in Computer Science at Pullman, Tri-Cities, Vancouver   5
- (*Resolution 99-12*)

	WSU BS in Computer Science at Vancouver	**6**
	• *(Resolution 99-13)*	

1:15 p.m.   **Legislative Update**   **9**

1:45 p.m.   **EWU Spokane Academic Program Review**   **8**
- HECB staff briefing
- EWU presentation
- *(Resolution 99-09)*

2:15 p.m.   **TESC Student Panel**

2:45 p.m.   **Washington Software Alliance Presentation**   **7**
- Ken Myer, WSA Co-Chair & IBM Regional Manager

P U B L I C   C O M M E N T

O T H E R   B U S I N E S S/D I R E C T O R'S   R E P O R T

A D J O U R N

C A M P U S   T O U R

If you are a person with disability and require an accommodation for attendance, or need this agenda in an alternative format, please call the HECB at (360) 753-7800 as soon as possible to allow sufficient time to make arrangements. We also can be reached through our Telecommunication Device for the Deaf at (360) 753-7809.

1999 HECB Meeting Schedule

DAY/DATE	*TYPE*	*TENTATIVE LOCATION*
May 25-26 (Tue.-Wed.) tentative	**Regular meeting**	**WSU Tri-Cities**
June	*No meeting*	
July 14 & 15 (Wed. & Thurs.)	**Board planning** **Regular meeting**	**(Leavenworth) – Wenatchee Valley Community College**
August	*No meeting*	
Sept. 15 (Wed.)	**Regular meeting**	**Olympia**
Oct. 27 (Wed.)	**Regular meeting**	**UW Seattle**
November	*No meeting*	
Dec. 1 (Wed.)	**Regular meeting**	**FT. Lewis Ed. Center (committee weekend)**

HIGHER EDUCATION COORDINATING BOARD
MINUTES OF MEETING
February 17, 1999

<u>**HECB Members Present**</u>
Mr. Bob Craves, Chair
Dr. Gay Selby, Vice Chair
Mr. Jim Faulstich
Mr. Larry Hanson
Ms. Kristianne Blake
Ms. Ann Ramsay-Jenkins
Dr. Frank Brouillet
Dr. Chang Mook Sohn
Mr. David Shaw

<u>**HECB Staff**</u>
Mr. Marc Gaspard, Executive Director
Ms. Linda Schactler, Deputy Director
Mr. Bruce Botka, Dir. Governmental Relations
Ms. Becki Collins, Dir. Educational Services
Mr. Dan Keller, Senior Associate Director
Ms. Elaine Jones, Senior Policy Associate
Mr. Jim Reed, Associate Director, Capital
Dr. Evelyn Hawkins, Associate Director, Research
Ms. Patty Mosqueda, Policy Associate
Dr. Kathe Taylor, Associate Director

INTRODUCTIONS
Mr. Bob Craves, HECB Chair, welcomed meeting participants and initiated Board introductions. Mr. Marc Gaspard, Executive Director, reviewed the agenda for the day.

Minutes of December 7, 1998, Meeting

Mr. James Faulstich moved for approval of the minutes as recorded. **Mr. Larry Hanson seconded**. The minutes were approved with one correction: Mr. David Shaw was not at the Dec. 7 meeting.

I-200 PANEL
Mr. Craves called on the representatives from the public institutions to discuss the effects of Initiative 200 on college campuses. The panel consisted of:
- Mr. John Boesenberg, SBCTC, Human Resources Director:
- Ms. Gayle Ogden, EWU Affirmative Action Officer & Assistant VP for Legal Affairs
- Dr. James Pappas, CWU VP for Enrollment Management and Marketing
- Dr. Ernest Morris, UW VP for Student Affairs
- Dr. Eileen Coughlin, WWU VP for Student Affairs & Dean of Academic Support Services
- Dr. Art Costantino, TESC VP for Student Affairs
- Dr. Jane Sherman, WSU Associate Vice-Provost for Academic Affairs

Impact of I-200
<u>On admissions:</u> The Evergreen State College and the University of Washington have stopped using race and gender as factors for admission. While there is no dramatic impact on the student mix currently, Dr. Morris anticipates lower minority enrollment for next year. There is no discernable effect for the other universities who have never used race and gender as special factors for admission to their programs.

<u>On students and campus environment:</u> Students are confused about the implications of I-200. A small sector sees this as a sign that Affirmative Action is dead. Students of color are concerned about potential hostility toward them on campus and feeling less welcome. Overall, there is a

heightened sense of awareness of, and support for, diversity among a majority of the students. Some of them have formed alliances to ensure safety and security in the campuses.

Actions to mitigate effect of I-200
Following are some actions proposed by the panel to mitigate the negative effects of I-200:

- Communications: Focus on communicating to students, staff, and faculty that I-200 does not cancel out Affirmative Action and the institutions' commitment to diversity. Given the increase of the minority population in our state, it will be fair to assume that the minority population in our schools will not decrease. It is important for students to understand that discrimination is still very much against the law. The key element is articulation of the appreciation of diversity.

  Communicate that federally supported programs, scholarships, and targets will continue to be administered in compliance with the national government's Affirmative Action plans.

- Intensify and deepen outreach efforts: Without race as a factor in admissions, our ability to maintain diversity is diminished. The way to fight this is to reach deeply into our schools and address this issue at the earliest possible point in the lives of our students, so that opportunity is really made available to everyone in this society. Talk to students to get them thinking early about college and prepared to compete for admissions. Intensify mentoring.

- Improve teacher training and certification to ensure that teachers have the skills to help students prepare and compete for college admissions.

- Provide increased state support for colleges and universities. The real concern is not the state's or the citizens' lack of commitment to diversity, but our ability to reach these goals due to insufficient resources and funding.

- Actions available within the constraints of I-200. Find ways within the law to maintain and promote scholarships and grants aimed at women and students of color. Focus on foundations that are separate from the schools, and therefore not bound by state law.

CAPITAL PROJECTS
Mr. Larry Hanson, representing the Capital subcommittee that includes Mr. David Shaw and Ms. Kristianne Blake, provided a brief history and rationale that led to the creation of the co-located campuses. He recalled that when the Board recommended the co-located campuses originally, they broke new ground and stirred up a lot of controversy. That vision is now a reality; the HECB recommendation of the creation of a consortium of two- and four-year institutions is taking form and moving forward.

Mr. Jim Reed, HECB Associate Director for capital projects, introduced those who provided updates on the following projects:

Cascadia/UW Bothell consortium
- Mr. Bob Dickson, Project Director, Dept. of General Administration

- Dr. Victoria Munoz, President of Cascadia
- Dr. Stan Slater, Chancellor, UW Bothell
- Representatives from the consulting firm, MBBJ

The project is very much on schedule and within budget. Drs. Munoz and Slater talked about collaborative efforts going on between the two schools: joint library, joint student government offices, project and activities, including a shared director for facilities planning.

Jefferson and Okanogan Counties
- Scott Wilson, General Mgr. of <u>The Leader</u> (daily newspaper in Port Townsend)
- Denis Curry, Senior Partner/MGT of America, Inc.
- Dr. C. William Chance, Sub-consultant to MGT
- Dr. Vicki DeLorey, Senior Consultant/MGT

A working group of institutional representatives (Project Coordination Team) has been established, as well as a Community Advisory Group in both Jefferson and Okanogan Counties to prepare a complete recommendation package for Board action, targeted June/July.

North Snohomish, Island, and Skagit Counties Consortium (NSIS)
- Dr. Larry Marrs, WWU, NSIS Executive Director
- Dr. Jim DePaepe, CWU Vice Provost

NSIS is a partnership among the University of Washington, Washington State University, Central Washington University, Western Washington University, Edmonds Community College, Everett Community College, and Skagit Valley College. Eastern Washington University also has attended partnership meetings as an observer.

The NSIS Consortium partners have developed agreements concerning administrative and program responsibilities and authorities. They have selected WWU as the fiscal agent and have appointed Dr. Larry Marrs as the Director for the project. Coordinators assigned to each site will provide local help. The Board has recommended funding the next preplanning and predesign phase of this project.

NEW PROGRAM APPROVALS
Ms. Elaine Jones, HECB Senior Policy Associate, presented the three new degrees for approval:
- WSU BA in Education, Grays Harbor
- WSU BA in Criminal Justice, Distance Education
- EWU M Ed in Elementary Education, Kent

Board comments/questions/suggestions:
Dr. Selby suggested that future program approvals indicate the starting date for the program in question.

Dr. Chang Mook Sohn requested clarification regarding the policy for determining which programs can be offered where, and by which institutions, and how competing proposals are

resolved. Ms. Jones reminded that about five years ago, the Board determined it was in the best interest of the state that institutions of their own volition decide which programs they wanted to take, and to what region. The Inter-institutional Committee for Academic Program Planning (ICAPP) that is comprised of the HECB and vice-provosts from each institution oversee the process.   When there are duplications or competing proposals, the institutions discuss and determine a resolution to the situation.

Mr. Jim Faulstich requested a good summation of what we are doing on teacher education generally, and specifically, Masters of Education Program. Do we also track programs offered by private institutions when considering new program proposals?   How many Masters of Education degrees are granted per year? What is the trend, what are we getting out of it? (Ms. Jones noted that ICAPP does have that issue on their agenda.)

Dr. Selby wanted to know if there is a current list of teacher preparation programs, specifically, which institutions offer them, the sites where they are located, and the current enrollment. How many certificates are coming out on an annual basis? (Ms. Jones will put the report together.)

ACTION:	**Mr. Jim Faulstich** moved for consideration of Resolutions 99-03, 99-04, and 99-05. **Ms. Ann Ramsay-Jenkins** seconded the motion, which was carried unanimously.

LARRY DE LORME, WWU Provost
Mr. Craves read Resolution 99-07 honoring Dr. DeLorme who is retiring from state service for health reasons.

ACTION:	**Mr. David Shaw** moved for consideration of Resolution 99-07. **Mr. Larry Hanson** seconded the motion, which was carried unanimously.

MASTER PLAN 2000
Mr. Craves summarized the process in the preparation of Master Plan 2000. Work sessions will be incorporated in Board meetings to discuss white papers that look at critical higher education issues/areas and associated policy questions. HECB staff under the direction of the board Master Plan subcommittee composed of Bob Crave, Jim Faulstich, Ann Ramsay-Jenkins, and Gay Selby develops the papers. The subcommittee is also meeting with a wide variety of groups to talk about higher education issues, ideas and concerns. The intent is to draft a Master Plan by late summer and to take this to public meetings and hear what people think about the proposals.

Enrollment Forecasting
Mr. Faulstich and Ms. Jenkins stated that the 2000 Master Plan would build on past Master Plans.   Informed choice in the case of students is going to be a critical theme.   The recommendations will have specificity.   The HECB will hold itself accountable for these recommendations and will evaluate it annually.

Dr. Selby agreed that the committee is beginning to coalesce around the theme of "choice." She warned that there will be "…*no sacred cows. We'll examine the issues from as many perspectives as possible.*"

Mr. Dan Keller, HECB Senior Associate Director, talked about how past Master Plans set enrollment goals. He said that participation rate for enrollment has been used in the state for 10 years. Assuming that the mix of students doesn't change, he projected that by 2010, the number of students in college will equal the national average.

Dr. Selby asked if job demand will be factored in. Mr. Reed responded that this would not be part of our empirical assumptions. We will not correlate labor forecast and job needs to programs. However, we have asked WSU, in relation with the Spokane project, to identify some of these elements. He said the more critical question for the Master Plan probably is what qualities and skills to do employers seek in those they hire?

ACTION:	**Mr. Larry Hanson** moved for consideration of Resolution 99-06, 2000 Master Plan Enrollment policy. **Mr. Jim Faulstich** seconded the motion, which was carried unanimously.

FOR-PROFIT, DEGREE GRANTING PROVIDERS

No action taken
The report and resolution before the Board concluded that while "for-profit, degree-granting providers serve a unique student market, they are unlikely to accommodate a significant portion of statewide enrollment needs."

The Board was reluctant to take action on Resolution 99-08 until staff provides more information and research. Mr. Craves believes that this group of providers is going to increase aggressively in the coming years and will play a bigger role in the capacity issue. Mr. Faulstich suggested looking into the Western Governors' University as well.

WSU EDUCATION NEEDS ASSESSMENT PROPOSAL FOR SPOKANE

Ms. Elaine Jones briefed the Board on this item, reminding them of the conditional approval granted by the Board in December to Washington State University's program plan and new operational profile for the Riverpoint Park in Spokane. The HECB also asked WSU to conduct additional market analyses of the area and agreed to provide funds to WSU to hire an independent researcher to do the analyses.

The funds can be accessed contingent on the Board's approval of the WSU Market Analysis/Education Needs Assessment Proposal for Spokane Area Higher Education Services.

ACTION:	**Ms. Kristi Blake** moved for consideration of Resolution 99-02. **Ms. Ann Ramsay-Jenkins** seconded the motion, which was carried unanimously.

ST. MARTIN'S COLLEGE
Dr. David Spangler, President of St. Martin's College, described the work that the college does in meeting the needs of students in the state. He described the flexibility of the college, meeting needs and demands, offering a wide variety of programs and opportunity to help students meet their goals. He stated that St. Martin's College is the highest rated institution for teacher education in this state, with the highest number of graduating students placed within a job. Dr. Spangler also spoke about the significant role of independent colleges in the state, representing 27 percent of undergraduate population.

He introduced three students: Jayme Blocker, Chris Bower, and Christie Hazlick, who spoke about their experience at St. Martin's, their educational goals and plans for the future, and why they picked St. Martin's College for their undergraduate education. Small class size, good programs, and accessibility of faculty were the major reasons given.

LEGISLATIVE UPDATE
Mr. Bruce Botka, HECB Director for Governmental Relations and Policy Development, provided an update of the Legislative Session. He distributed a summary listing the current status of HECB priorities, including enrollment, tuition, State Need Grant, operating and capital budgets, and accountability.

DIRECTOR'S REPORT
Mr. Gaspard gave a brief report on the activities of the agency and reviewed the schedule of planned Board meetings and Master Plan-related activities for the year.

Meeting was adjourned at 5:00 p.m.

RESOLUTION NO. 99-02

WHEREAS, In December 1998 the Higher Education Coordinating Board conditionally approved Washington State University's "Planning for Higher Education in Spokane." which proposed a program plan and new operational profile for the Riverpoint Higher Education Park in Spokane; and

WHEREAS, The Board specifically recommended that Washington State University conduct additional market analyses to determine how WSU Spokane can help meet the demand for higher education statewide, as well as in the immediate Spokane area; and

WHEREAS, The Board has agreed to provide funding to Washington State University to hire an independent researcher to conduct additional research; and

WHEREAS, Washington State University has submitted an assessment proposal that meets the Board's "Market Analysis/Education Needs Guidelines for Spokane Higher Education Services;"

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves the Washington State University "Market Analysis/Education Needs for Spokane Higher Education Services," effective immediately.

Adopted:

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

RESOLUTION NO. 99-03

WHEREAS, Washington State University is proposing to offer a Bachelor of Arts in Education at Grays Harbor; and

WHEREAS, The combination of high unemployment, keen student interest, and high turnover substantiates that the demand for elementary teachers in the region will continue; and

WHEREAS, WSU would bring to Grays Harbor a program with a well-developed curriculum, assessment plan, and clear student outcomes established by the state; and

WHEREAS, the program will be delivered in partnership with Grays Harbor College via on-site faculty and multiple distance learning technologies; and

WHEREAS, the program would be supported through reallocation at a reasonable cost;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves Washington State University's request to offer a Bachelor of Arts in Education, effective immediately.

Adopted:

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

RESOLUTION NO. 99-04

WHEREAS, Washington State University is proposing to establish a Bachelor of Arts in Criminal Justice Statewide Distance Education Program; and

WHEREAS, The program has the potential to contribute significantly to greater higher education access in all areas of the state of Washington; and

WHEREAS, The program will respond to the growing demand for professionals in the criminal justice system; and

WHEREAS, The public baccalaureate institutions will have the opportunity from the beginning of the program to contribute some core courses, electives, and unique concentrations; and

WHEREAS, The program supports the Board's initiatives for higher education, including expanded use of instructional technologies, increased partnerships with four-year institutions, and greater participation of people of color in higher education; and

WHEREAS, The assessment plan is well suited for a distance education program and should facilitate on-going program enhancements; and

WHEREAS, Resources are adequate to support a quality program and support services; and

WHEREAS, The costs are reasonable and reflect the prudent use of state resources;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves Washington State University's request to establish a Bachelor of Arts in Criminal Justice Distance Education Program, effective immediately. Furthermore, on an annual basis, WSU will submit actual costs for the distance education courses, including the actual costs associated with delivery via distance education technologies. Finally, at the end of the second year of the program, WSU will submit to HECB staff all assessment information related to program effectiveness and student learning outcomes.

Adopted**:**

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

RESOLUTION NO 99-05

WHEREAS, Eastern Washington University has requested to offer a Master of Education in Elementary Education in Kent; and

WHEREAS, The Kent School District is supportive of and interested in a teacher preparation program that is tailored to the needs of the district and under-served adults in the region; and

WHEREAS, The program will bring more qualified people into the teaching profession; and

WHEREAS, The program will be funded on a self-sustaining basis and make effective use of existing faculty and resources; and

WHEREAS, The diversity and assessment plans are thorough;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves the Eastern Washington University request to offer a Master of Education in Elementary Education in Kent for one student cohort, effective immediately.

Adopted:

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

RESOLUTION NO. 99–06

WHEREAS, The Higher Education Coordinating Board is directed by statute [RCW28B.80.330 (3)] to prepare a Master Plan for higher education in the state, and the next update is to be presented to the Legislature in 2000; and

WHEREAS, An integral part of the Master Plan will be an analysis of expected higher education enrollment levels in this state in future years; and

WHEREAS, The Board, in previous Master Plans, has established headcount enrollment levels based upon decisions about the percentage of certain age groups that should be enrolled in postsecondary education (the participation rate method); and

WHEREAS, No other, more reliable or accurate methodology has been identified for determining enrollment demand, and

WHEREAS, Interest in accessing higher education services may increase for many citizens in this state; and

WHEREAS, Alternative technologies for delivery of instruction (such as distance education) will effect a more widespread availability of higher education services in the future;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board, in developing the Master Plan, will use participation rate methodology to determine baseline, future enrollment needs, and will augment and refine these enrollment projections with analyses of increased interest and demand from citizens for higher education services, and the emergence of alternative delivery technologies.

Adopted:

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

RESOLUTION NO. 99–07

WHEREAS, Members of the Higher Education Coordinating Board have come to know Dr. Larry DeLorme through his service to Western Washington University as Provost and Vice President for Academic Affairs; and

WHEREAS, Larry's legacy to education began when he taught sixth grade in New Jersey, continued when he taught history at Skagit Valley College, and developed fully over 33 years as a faculty member and administrator at Western Washington University; and

WHEREAS, Larry has left his mark on Western Washington University through his steadfast commitment to quality educational opportunities for students, evident through his leadership in initiating the Archives and Records Management and Historic Preservation graduate programs; in strategic planning, and in establishing a center for teaching and learning, to name only a few of his many contributions over the years; and

WHEREAS, Larry has been instrumental in several statewide initiatives, most recently, founding the six-year Cooperative Library Project and sheparding it to completion; and

WHEREAS, Larry continues to be an active scholar in frontier crime and law enforcement, bringing his extensive knowledge of North America Western history even to Higher Education Coordinating Board meetings, where he routinely managed to slip colorful tidbits of western lore into his presentations;

THEREFORE, BE IT RESOLVED, the Higher Education Coordinating Board honors Dr. DeLorme's contributions to Washington higher education, and thanks him for his many years of service to the higher education community.

Adopted:

February 17, 1999

Attest:

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Bob Craves, Chair

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David Shaw, Secretary

| Master Plan Policy Paper #3: The Use of Electronic Technology in Delivering Postsecondary Education |

ISSUE AREA

The use of electronic technologies to deliver postsecondary education.

POLICY ISSUE

Can electronic learning (E-learning) technologies enhance access to postsecondary education in Washington State?

STUDY QUESTIONS

- What are the dominant E-learning technologies and how are they used?

- What differentiates distance learning from other uses of E-learning technologies?

- Does E-learning affect the quality of the learning experience?

- How are E- learning technologies affecting higher education culture?

- **Can E-learning provide Washington's citizens with more access to education?**

- What are the policy implications of enhancing E-learning opportunities?

INTRODUCTION

This paper is intended to provide an overview of E-learning technologies in higher education to determine how they can be used to enhance access to higher education in our state. To address the question, the paper defines and explains the primary technologies that are in use. It discusses the cultural changes and effects of these new instructional delivery systems on students, faculty, and institutions, and then suggests some arenas where policy initiatives could address obstacles and assist their development.

HOW TECHNOLOGY IS CREATING A NEW LEARNING ENVIRONMENT

Computers, telecommunications, and the Internet are changing the way schools do business. Advanced media and technologies offer today's colleges a rich mix of learning tools for use both inside and outside the classroom. These tools support the recent research on diverse learning styles that has changed our idea of "best practice" in teaching.

A campus-based instructional model was once the most efficient way for students and faculty to gain access to education resources. The interaction among students, faculty, the library, campus, laboratory facilities, and administration framed our idea of what constitutes higher education. Electronic technology has decentralized many of these resources, putting them within reach of faculty and students with the necessary skills and motivation to access them. Students no longer need come to a centralized physical facility to interact with many education resources and processes, or even to interact with faculty and peers.

Most people still think of college as lectures, books, and papers, but technology has already begun to alter that thousand-year-old paradigm. Only a few years ago, overhead transparencies were the dominant instructional media. Video, computers and the Internet are quickly overtaking them. The hardware, software, and delivery systems we use are changing and converging so very quickly that any description can only be a snapshot in time. Today's college students can review their syllabi on Web pages, visualize complex processes with computer graphics, and practice skills through games and simulations. Students communicate via e-mail and use the World Wide Web for research. On campus, they are introduced to state-of-the-art resources specific to their fields of study.

Some people view electronic information technologies as a "technological fix" for a host of problems from enrollment demand to remediation. But E-learning technologies are *tools* for instruction. Electronic courseware that is well designed and used with care *can* enhance student learning. Poorly designed courseware is, predictably, less effective. The same is true for traditionally designed and delivered courses. Best practice in instructional design, whether electronic or traditional means choosing the medium best suited for the characteristics and location of the learner, the course content and course objectives. Television is different from the Internet; two-way interactive video (ITV) is different from computer-based instruction. All of the new course delivery options require significant investments of time, energy, training, and money for implementation.

Just as the availability of textbooks does not eliminate the need for teachers, neither does the proliferation of learning content on video or the Web eliminate the need for faculty, formal courses of study, or organized learning activities. Regardless of instructional media — books, overheads, video, or CD ROM — high-quality education requires thoughtful planning and design, engaged learners, and faculty who have the training, the time, and the motivation to engage the latest delivery strategies to enhance student learning.

E-learning Technologies and Their Application

In order to understand the impact of E-learning, we need to identify the key learning technologies, then understand how they are being applied to postsecondary instruction. Categories of E-learning can be established in any of the following ways:

- by a particular *kind* of hardware or delivery system such as computers or video;
- by the *locus* of instruction -- onsite or offsite; or
- by defining whether the students and faculty meet and work at the same time, generally referred to as "synchronous" (at the same time), or "asynchronous", (anytime, anywhere instruction).

The following is a summary of the dominant E-learning technologies in use in Washington State today. *(Please refer to Appendix A for more detailed descriptions.)*

▶ Teleconference Technologies

Interactive Television (ITV) courses are characterized by their ability to provide two-way interactive "live" instruction telecast to outlying sites where students participate in the class through cameras and microphones in specially designed and designated classrooms. ITV courses are distributed throughout Washington State schools via the K-20 network.

Satellite Teleclasses generally provide information via one-way video (from a studio) and two-way audio (via telephone). Satellite teleclasses are used primarily for 'just-in-time' training that requires wide dissemination.

▶ Pre-Recorded Materials

Telecourses are complete instructional systems that rely on video for their primary delivery, supplemented by textbooks, study guides, and other materials.

Computer Based Training (CBT) generally denotes computer-based learning packages that do not rely on telecommunicated transmissions for delivery. Most frequently, the student utilizes CBT packages alone or in computer labs. The content is distributed on digital storage media such as diskette, CD-ROM, or Digital Video Disks (DVD).

▶ Internet and Online

Online courses are delivered over the Internet, using computer communications to link faculty and students. Internet classes vary in technical sophistication, and may incorporate e-mail, listservs, resources and courseware on the World Wide Web, or specialized course-management software.

Defining Common Terms for the Purpose of the Master Plan

> ⟫ *At WSU Vancouver, students take courses through two-way interactive video from teachers based at WSU/Pullman. Sometimes the instructors teach from Vancouver and the students in Pullman become the remote site. Course materials are sent via courier or fax and distributed by site facilitators.*
>
> ⟫ *Through a consortium called Washington Online, community college students sign up for courses through their local college, but their teacher might be employed at any Washington community college. All of the course interactions take place through computers. A team of faculty creates the course to assure that it meets statewide standards for the subject.*
>
> ⟫ *A student in Friday Harbor visits her local library to view a tape from a telecourse series supplied by Skagit Valley College. After viewing the materials and reading the textbook, she completes an assignment and sends it to the mainland for grading and feedback.*

▶ **Distance E-learning**

There are many ways to apply the term "distance learning." One of the earliest applications was correspondence study, popularized at the turn of the century.

Distance learning at its most basic level, takes place when teachers and students are separated by physical distance for most of the instructional delivery. For the purposes of the master plan, the term "distance learning" course or program should only be used if:

- Teachers and students are separated for at least 75 percent of the contact hours;
- The content has been specifically designed as a course of study to increase and assess student knowledge or skills; and
- An education institution provides the course content and is responsible for assessment of student achievement through credits, certification, or degrees.[1]

For the purpose of this paper, we will focus on E-learning technologies used to deliver instruction by a body authorized to grant credentials. This definition distinguishes more formal instruction from independent E-learning for personal development. In other words, a student may be able to use a search engine to find information on the World Wide Web, buy an educational CD-ROM, or register for a commercial online training package. However, if the

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[1] This definition excludes site-based instruction offered in-person using facilities other than those on a main campus. For the purposes of the master planning process, that should be identified as site-based external delivery.

student wants credentials for the learning, they will need to engage in a course of study that likely includes reading about it, writing and synthesizing their learning, participating in some dialogue with fellow students, and/or performing some activity that establishes their competence in the subject. Institutions offering programs or degrees via distance will be expected to meet quality standards such as those articulated by the Western Cooperative for Educational Telecommunications. (*See Appendix B*)

It is important to recognize that the term "distance" in this case does not necessarily imply great geographical separation. Campus-based students often take distance classes to supplement on-campus courses, fill in prerequisites, or accommodate complicated schedules. "Distance" education can take place with the faculty and student separated by many miles or just a few blocks. Data from the University of Washington Extension shows that 30 percent of their distant learners are matriculating students.   Washington Online's statistics show that 50 percent of their students are also enrolled in on-campus classes.[2]

▸ Multi-modal or "Distributed" Instruction

There are many ways to apply, combine, and use E-learning technologies for education. For the purpose of planning, it will be useful to distinguish these applications from 'pure' distance learning where the teacher and student are seldom physically together.

Multi-modal and distributed instructional systems are fast becoming the dominant approaches to instructional delivery, because they take advantage of the best aspects of both in-person and E-learning. While pure (100-percent) distance learning remains controversial among some in higher education, multi-modal E-learning is being applied in the service of all kinds of instruction inside and outside the classroom. Computers, Internet, video, the World Wide Web, and interactive video are all available as learning tools.

Multi-modal or distributed instruction means the information is delivered, and learning takes place through the use of several technologies. The term *distributed education* is often used when communications technologies supplement class time to expand classroom resources or facilitate convenience scheduling. This can be as simple as a faculty member placing a syllabus on the Web.

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[2] These statistics may reflect the audience to whom the courses have been marketed so far. Additional marketing and recruitment strategies might be designed to encourage other audiences.

Examples of multi-modal instruction:

> ❧ *At the University of Washington, lectures in computer programming have been converted to CD-ROM and World Wide Web pages. Students can view the content live in the lecture hall or watch it on cable TV. Later, students can view it on their computers through the Web, simultaneously watching the instructor at the podium, and reviewing the print materials (via Power Point slides). As students pursue their assignments they can e-mail or "dial up" a tutor. The tutor can answer questions by phone or actually take over the student's work on the computer via "NetMeeting," and correct the work.*
>
> ❧ *At Seattle Central Community College in a "tutored lecture" environment, students use course materials prepared by the UW. They watch the materials with a tutor/facilitator. Every four minutes there must be either a question/answer in the recorded materials, or a question from the classroom. Otherwise the tutor is required to stop the playback and raise a question for student discussion. This class takes place on campus, and since the class materials are prepared at the UW, the student is assured the course credits can be applied to UW computer science degree requirements.*
>
> ❧ *At North Seattle Community College, students of biology attend class in the "Cities" classroom where media technology and class activities are intricately interwoven. Instructors use sophisticated graphics and simulations available from CD-ROMs or the Internet, and students can use workstations spaced along the perimeter of the room to follow up, perform experiments, or do research.*
>
> ❧ *The University of Washington offers an MSW program at Peninsula Community College to a 'cohort' of social workers. The students meet for intensive weekend activities, aided by a facilitator who works on-site full time to organize the program. The program faculty teach full time at the UW main campus. By conducting some of the classes via two-way video from Seattle, they can serve both on- and off-campus learners.*
>
> ❧ *At the Evergreen State College, a group of students study management, also taking classes on weekends. The additional interactions needed to process and explore the class content are accomplished on-line through e-mail and electronic conferencing. Students submit papers to instructors as e-mail file attachments.*

How Does E-learning Affect Instructional Quality?

Any time courses are rewritten, a fresh start provides an opportunity to reconsider how content has been presented in the past and to rethink how to enable the learning process. Similarly, when curriculum is rethought and converted for E-learning technologies, the new approach and new

beginning offers the opportunity for new learning strategies. However, the preparation of E-learning materials requires significantly more attention to instructional design and implementation than the development of traditional classroom instruction.

Curriculum design is key to the success of E-learning technology. Training faculty for E-learning is more about revising curriculum and instruction than about the mechanics of a particular technology. Course conversion requires a focus on learning objectives and finding the ideal way to achieve them. Often, when a team approach is applied to electronic course development, the result can bring more knowledge and perspective to the process of course creation. A typical team could include one or more content specialists, an instructional designer, software programmer, media producer, and computer network specialist.

No matter how well designed E-learning curriculum may be, some still believe that in-person instruction is intrinsically superior to distance learning or multi-modal instruction. Clearly, that is not the case. A lecture course delivered without inspiration or imagination to a large student audience does not necessarily constitute a "quality" learning environment, although it may well be a person-to-person mode of delivery. Conversely, "screen time" that invites interaction through e-mail exchanges, listservs, chat rooms, and other interactive features may engage students deeply in the learning, and thereby enhance it. In short, no one method automatically precludes a quality learning experience.

Similarly, E-learning does not automatically imply a lack of student-to-faculty contact. In fact, it may result in *greater* student-to-faculty communication, as well as greater communication among students. Instructors who have taught online uniformly state that such instruction enables and requires far more one-on-one interaction than occurs in the classroom.

Many studies have attempted to determine whether E-learning is or can be qualitatively comparable to face-to-face instruction. Supporters will quote the "no significant difference" findings documented by Thomas Russell of North Carolina State University. Russell has posted a page on the World Wide Web that chronicles 248 studies that found no significant differences between technology-based instruction and traditional classroom instruction.[3]

In fact, because uncertainty is so high about the effect of moving learning out of the classroom, distance instruction is generally held to a *higher* assessment standard than most classroom instruction. For example, many schools require all distance learning courses to be reevaluated by their curriculum committees even if the course content is exactly the same as the on-campus class.

In summary, although some disciplines or course content may be more easily adapted to E-learning technologies, the manner in which E-learning affects the quality of instruction will depend largely on the degree to which the technologies enable students to become actively engaged in the learning.

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[3] Available at http://teleeducation.nb.ca/nosignificantdifference/

HOW E-LEARNING IS CHANGING THE CULTURE OF HIGHER EDUCATION

> ✑ *No professionals in history have been asked en masse to change what they're doing in the middle of their professional lifespan. We've never before in history seen an abyss of change that is this deep and this broad.*
>
> *Jennifer James: Thinking in the Future Tense*
>
> ✑ *If change is indicated, and one does not change, one is bound to go in the direction one is headed.*
>
> *Chinese Proverb*

How E-learning is Transforming Traditional Ideas About Higher Education

E-learning, with its ability to serve new learners, eliminates geographic barriers, provides instruction at the convenience of the student, and transforms traditional ideas about student-faculty relationships, faculty load, and institutional autonomy. Enabling E-learning means policy makers must revisit all the formulas by which we organize and operate our systems and individual institutions — many of which are driven by traditions and power structures developed under a thousand year-old paradigm.

A student-centered, reach-anywhere approach to education means new cooperation among higher education institutions as they compete in the marketplace with schools from around the country and the globe. Rather than duplicating courses and programs, the colleges will need to find niches and specializations. Armed with E-learning technologies, and a mandate to reach out, they will be driven to create consortia and share resources. To accomplish these goals, institutions will have to resolve operational differences such as academic calendars, regional variations in faculty and staff compensation, and grading policies. More important, shared program delivery will mean coming to agreement on core values and outcomes in subject and content areas.

The Challenges to Traditional Administration, Support and Management

Reforming systems to support E-learning is a challenge that affects all educational management systems and formulas. E-learning, with its different infrastructure and support systems, demands new models for operations, for faculty and staff training and support, and alternative funding formulas.

E-learning, with its capacity for flexibility and just-in-time learning, challenges assumptions about the academic calendar, space planning, and scheduling that are as old as the Academy itself. Even the traditional week-long calendar can take on a new look with "24 by 7" operations: processes and programs available to learners 24 hours per day, 7 days per week.

Telecommunications challenge the ages-old axioms about seat-time and all that public policy has attached to that unit: contact hours, credit hours, degrees, and FTEs, to name a few.

As students, faculty, and administrators face challenges to tradition and existing policies, they will need help in making prudent responses that put learning first. Up to now, support has come mostly from external sources, such as industry and foundation grants. This year, the Fund for the Improvement of Postsecondary Education (FIPSE) is awarding grants for "Learn Anywhere, Anytime Partnerships" (LAAP). Accreditation agencies are also reviewing and adjusting their techniques and methods of assessment.

Program Design for E-learning

E-learning changes the formulas by which education is constructed. Start-up costs for new courses and programs are higher because the programs generally must be completely designed and produced in advance. In traditionally delivered programs, "course design" involves research on the subject material to be covered, the development of syllabi and lectures, and other tasks, shaping an E-learning course takes faculty into an entirely different arena.

In addition to curriculum design, there is graphic design, copyright clearance, and attention to intellectual property rights. Shared course delivery means coming to agreement on core values in subject and content areas. Faculty must choose the medium or combination of media best suited for the characteristics and location of the learner, the course content, and course objectives. Television is different from the Internet; two-way interactive video (ITV) is different from computer-based instruction.

All of the new course delivery options require significant investments of time, energy, training, and money for implementation. Technical support becomes a high-cost, constantly evolving area, including human resources, technical infrastructure, training, troubleshooting, maintenance, and upgrading of hardware and software.

E-learning also is likely to cause us to rethink personnel systems and flow charts. Already, many institutions have consolidated audio-visual, information, and library services. Institutions need new job descriptions for people with skills that incorporate computing, network management, instructional design, and media production.

Support for E-learning technologies will mean keeping up with a moving target. In 1994, the leading technology for distance education was videotape. By 1996, most institutions delivered distance education using two-way interactive television. In 1999 the Internet is the "hot" technology. And by 2006, all television as we know it will be converted to a new digital standard.

The point is, change is happening so fast that it is impossible to predict what lies around the corner. The public sector can't afford to take the same risks as the private sector. It will be important to plan flexible, adaptive systems and that allow public higher education to keep up with changes in the way we learn and work.

How E-learning Challenges Traditional Faculty Roles, Rewards and Expectations

Faculty care about ensuring the quality of instruction, working conditions, and intellectual property. They work hard to stay on top of their own fields while incorporating new technologies into their teaching. E-learning in general, and distance learning in particular, inspires both great uncertainty and high expectations, but if faculty think E-learning is threatening their way of life and unreasonably contributing to an already high workload, then they have few incentives to embrace E-learning and the redesign of courses and programs.

In the campus-based academic tradition, teaching has been a "cottage industry," where instructors personally crafted each of their classes. E-learning courses are now professionally designed and include detailed lesson plans, interactive lessons, pre-tested student exercises, answers to frequently asked questions, corrections for common misconceptions, and student discussion questions. Teaching through technology means the faculty member, once liege of the classroom, is likely to be a team player. Team-based course-development limits instructor control of intellectual property.

Faculty have always enjoyed significant control over the courses they chose to offer, the information and values imparted in the courses, how students would be assessed at the end of a course, and even over their teaching schedules. Departments still control most program content, and determine course and program competencies. Team teaching, interdisciplinary course development and new consortially delivered courses mean less control for the faculty of any one department or institution. In short, the realities of e-learning are a significant change to current models of faculty autonomy and control.

Even with their concerns about adding distance instruction to their own traditional load, full-time faculty are also concerned when pre-prepared courses are routinely assigned to part-time instructors. Part-time teachers are less likely to be able to help students through the maze of academic cultural and logistical issues. Part-timers often have limited access to equipment; they may work from home or in cramped offices shared by many others. Most receive no training compensation; they have less loyalty to the institution, and often are not in the community communications loop.

Perhaps most important is the lack of incentives for college teachers to focus their attention on delivery of instruction. In industry, new hires and promotions are determined by measuring the person against a skill standard. However, in research institutions, faculty promotions and incentives are still based upon research and publication. In most institutions, implementing e-learning requires faculty to divert their energy from those activities linked to compensation. Efforts to develop and incorporate new techniques and strategies bring them no reward in tenure or pay.

Change is hard. Many educators believe that physical presence is a requirement for learning. Transforming traditionally delivered programs and courses into formats compatible with E-learning requires that faculty understand the new models, and have the resources needed to engage them. This requires training, practice, technical support, and time.

How E-learning is Affecting Student Behavior and Expectations

Many students entering college in 2005 will come to campus — virtual or otherwise — with different expectations and abilities than students of ten or 20 years ago. They will have grown up with a computer at home and at school. For them, the Internet and World Wide Web will be as familiar as card catalogues and *The Reader's Guide to Periodical Literature* were to a different generation. They will be accustomed to finding information on the World Wide Web; many will be skilled in computer applications. They will have developed their kinetic responses by playing video games and surfing the Internet for play or schoolwork. They will be used to getting information at their fingertips — immediately and on demand.

E-learning means students can be better consumers, if they know how to shop. Students who understand technology can use it to match their own learning styles and abilities. If they understand how the system works, they can earn their undergraduate degree by completing a degree from a single institution, accumulating credits from several institutions, or proving their competencies. Qualified students will be able to complete their college degrees by taking courses from alternate providers, during the summer, or on overload.

E-learning students will get information on courses, programs, and their own academic progress whenever they want it. Online and distance courseware will provide educational options for the time- and place-bound whether in urban centers or rural communities. Multi-modal and distributed learning will allow students to minimize their trips to campus or classroom and help schools organize programs to fit the needs of working adults.

The potential for E-learning is vast, but there is much work to do.

Student Services on a Virtual Campus

Good distance learning programs offer coordinated services and dedicated personnel to help students navigate education systems. Many students who rarely or never go to a campus need specialized support systems and points of contact where they can find the information and human resources they would have formerly found on campus:

- **Program advising:** (What should I take? From whom should I take it? What programs and degrees are available to meet my interests and career goals?); and

- **Prior learning assessmen**t: (Do I have the skills and competencies to pursue a particular path? Will my courses transfer between institutions and their degree requirements?)

If institutions do not organize to support the E-learner, he or she will have to spend an enormous amount of time trying to negotiate processes such as admissions, registration, financial aid advising, computer connections, and library support.

- **Financial aid information:** Financial aid itself is a significant issue for E-learners. Financial aid award systems revolve around traditional time-based standards — seat time, credit hours, and clock hours — which may be irrelevant to E-learners. Unless an educational

program or a student's enrollment pattern can be configured to fit the traditional model, it is difficult, if not impossible, to award state or federal student financial aid. This year, in recognition of this obstacle, the Department of Education is funding demonstration projects to experiment with federal aid for E-learners.

- **Program availability and compatibility:** E-learning students need to understand the extent to which a desired course or program can be accomplished at a distance. Some courses may require laboratories, exams, or face-to-face sessions. Each school has some residency requirements setting the number of credits they must take to receive a degree from a particular institution. Not all courses are available every quarter or semester.

- **Resource availability and facility:** E-learning students need specialized skills and specialized tools. One of E-learning's great misconceptions is that E-learning is done alone. Rather, E-learning takes a high degree of facility with computing tools and consistent Internet access because, *far more than in the ordinary classroom, student-to-student interaction and active participation are a required condition of performance.*

There are significant differences in resources available throughout the state. Students on the I-5 corridor have a significant advantage over rural students in the Internet services and speeds available to them, and the cost for distance courses can vary with the availability of telecommunications resources. Several institutions have developed their distance education through self-support units. This means comparable classes offered via distance are more expensive than those in the classroom.

Clearly, the promise of E-learning is a student-centered learning environment, in which students have greater control of the pace and the immediacy of courses, research, and campus information. But the legacies of traditional time-based, campus-based systems will have to be altered, and the technology itself made more available before the advantages of E-learning can truly be realized.

CAN E-LEARNING PROVIDE WASHINGTON'S CITIZENS WITH MORE ACCESS TO EDUCATION?

Instruction through telecommunications technologies offers new pathways for access to education. By combining the use of E-learning technologies and sound educational practices, technology can be used to bring courses to place-bound individuals, help students achieve their academic goals efficiently, and provide training and enrichment for lifelong learners.

Using telecommunications technologies is not an inexpensive proposition for the state, the student or the institutions. With cultural and policy changes institutions may be able to find economies of scale. But additional investment will be needed for expanding and maintaining E-learning facilities and operations, as well as for faculty training and technical support. *Technology will not necessarily generate significant overall cost reductions or savings*, but it will make education more available and accessible for learners, if given the resources to set up self-sustaining systems.

Which Applications Work Best for Whom?

Distance education is not for everyone. It can meet specific needs of specialized audiences when matched with specific types of learners and specific kinds of content. Electronic delivery works better access for some subjects than others. Certain disciplines or course content may lend themselves more easily to E-learning technologies.[4]

Distance learners have a different demographic profile than campus-based students. Generally, they are older working adults, mostly female, who must earn their degrees along with other responsibilities, usually work and family. Most students who enroll in distance education courses are over 25 years old, employed, and have previous college experience.[5]

Off-campus distance learners take fewer credits per quarter, and prefer programs that provide open, compressed, or accelerated learning opportunities, such as open enrollment (start anytime) or weekend "intensives," courses that pack the maximum amount of coursework into a few weekends, instead of an entire semester or quarter. Many prefer the "asynchronous" instructional options that do not require attendance at a particular place or time.

Students who take courses that are delivered *totally* via distance (e.g. they never go to a campus) must be clear about their educational goals and already know how to learn. If they are taking online courses, they must have computer skills and access to the computers, software, and connectivity required to handle the course materials. They need the discipline to establish a regular study schedule, and sufficient motivation to complete the course or program on their own. Most reputable purveyors of *online* instruction provide some sort of student intake or self-assessment to determine whether potential students are good candidates for this kind of instruction.

Distance learning via *ITV* is somewhat different because the format of instruction mirrors the traditional classroom. Though away from the home campus, the class meets at a set time and requires a specially designed location. ITV is more often used to bring teachers to off-campus sites. In Washington State, the Washington Higher Education Telecommunications System (WHETS) network has brought instruction to such places as Yakima, Vancouver, and Spokane.

Distance learning can be used to provide access for students in rural areas. Many distance learners are only looking for a skill set or credential and do not seek the traditional campus experience, replete with homecoming games, the student union building, and dorm life. However, some distance learners who do seek an education comparable to a traditional college experience will not get it unless provided equivalent services and resources.

A campus environment provides "in-person" student services — technical help for computing questions, library resources geared to academic research (different from the focus of community

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[4] In general, areas of current representation or scholarship are most likely to have internet based resources while historical subjects and ancient texts are less likely to have been translated to electronic form. Also, courses with extensive laboratory, clinical or mechanical requirements are more difficult to deliver at a distance.

[5] "Who is learning at a Distance? from Peterson's ~~web~~Web site http://www.petersons.com/dlearn/who.html

libraries), specialized laboratories and tools. And a traditional campus includes people to help with the personal side of getting through college such as scholarships, financial aid, and domestic issues. These systems will need to be rethought and revised to serve learners who do not come to campus. They will need to be centered on the needs of students rather than the operations of a physical plant. This means a "24x7" (24 hours a day, seven days a week) approach to scheduling facilities, faculty and staff support – a significant changes in the way colleges do business.

APPENDIX A

Distance Learning Technologies

▶ **Print**

Correspondence courses are individualized, self-paced studies, traditionally print based and conducted by mail. Correspondence courses are still very popular and are frequently supplemented by e-mail and telephone interactions between instructor and student. Correspondence courses allow students to complete course work at home on a self-paced schedule.

▶ **Teleconference Technologies**

Interactive Television (ITV) courses are characterized by their ability to provide two way interactive 'live' instruction telecast to outlying sites where students participate in the class through cameras and microphones in specially designed and designated classrooms. Interactive television courses are distributed throughout Washington State schools via the K-20 network, which links schools and government agencies throughout the state. Both the University of Washington and Washington State University offer upper division courses on community college campuses using interactive video. This allows geographically dispersed students to attend the same 'live' classes. Course materials are prepared and sent in advance or faxed to remote student groups. Occasionally the instructor will travel between sites.

While on the surface ITV classes seem cost effective, practitioners know that they require a higher degree of faculty preparation than the classroom. "Talking heads" are deadly and ineffective in this medium and faculty must be trained in active learning techniques and remote site class management. In addition, support is needed at each remote site for movement and management of course materials and to facilitate physical (doors, locks, hours, scheduling etc.), technical (connection, camera switching, troubleshooting, microphone placement, room configuration, etc.) and student (books and materials, advising, library) support.

Satellite Teleclasses generally provide information via one way video and two way audio. Used primarily for 'just in time' training that requires wide dissemination, satellite teleconferencing enables broad dissemination of materials rather than being limited to reception by sites attached to the K-20 system or the Internet. In satellite based instruction, a mix of live and recorded video is sent to a satellite transponder via an 'uplink'. From the satellite the content is beamed back to earth over a broad reception area (called "footprint") where anyone with a satellite receive dish can become a downlink site. Interaction is most commonly accomplished by telephone though Internet, fax, or print material may also be instructional components.

▸ **Pre-Recorded Courses**

Some courses are available as pre-recorded media such as video or audiocassettes, or CD-ROM. After listening to or viewing the course materials, students are expected to take action doing assignments, worksheets and/or participatory activities.

Telecourses are complete instructional systems that rely on video for their primary delivery, supplemented by textbooks, study guides, and other materials. Telecourse students work independently, watching the television programs, reading the print materials and doing course assignments. There are few, if any, on-campus meeting times, at the discretion of the instructor.

With such course offerings, faculty members guide students via a variety of communications and instructional techniques including exercises, Web-based research or even labs and fieldwork. Telecourse faculty members usually maintain office hours and are available to assist students by phone, e-mail or in person. In-person seminars may be held for orientation, testing and to complete laboratory exercises.

Commercially produced telecourses are often shown on public broadcasting stations and cable education channels and can be taped off-air. Sometimes colleges establish community viewing sites or tape rental services. Institutions pay for the rights to use these materials, hire faculty, and monitor student outcomes.

Institutions that choose to invest in the production of telecourses themselves (*self-produced*), then own the copyright to the materials. Telecourse quality (and cost) varies widely, from the individual instructor lecturing as a 'talking head', to intricately designed graphic presentations, to complex productions utilizing teams of content experts and sophisticated production personnel.

Computer Based Training (CBT) generally denotes computer based learning packages that do not rely on telecommunicated transmissions for delivery. Most frequently, the student utilizes CBT packages, distributed as CD-ROM, DVD (digital video disk) or software on diskette alone or in computer labs.

▸ **Internet and Online**

Internet and Online Courses are delivered over the Internet, using computer communications to link faculty and students. Students with a computer and modem can access online course materials from anywhere. A good online course will require students to be actively involved in interactive learning and group participation. When taking an online class, students still utilize other resources such as textbooks, study guides and audio-visual materials. Courses that use additional materials require support mechanisms such as mail order book ordering; community based viewing, or laboratory and test sites to enable students to achieve all of the required course outcomes.

‣ **The Listserv or E-mail classroom**

Classes conducted via e-mail allow students to download messages and upload assignments. They often use listservs, which take messages sent to a specific e-mail address and distribute them to all members of a particular group. For e-mail-based classes, the listserv is the virtual classroom. In this way, all the students in that class share comments, questions, and discussions that are sent to the class address. Every student comment or question, every instructor answer or comment is saved for everyone else in the class to read and respond to.

For questions or comments that need to be directed privately, regular e-mail is used Questions, comments and answers that would normally be made during class are directed to the class listserv so that all can benefit from them. Questions or comments that would normally be asked of an instructor before or after class are directed through private e-mail. Private e-mail is used for feedback from instructor to student, and for submitting homework, quizzes, and tests.

E-mail based classes were among the earliest ways classes were delivered via the Internet, and many still exist today. However, course development and class management (tracking students, file attachment technologies, organizing student interactions) can be cumbersome and limited using only these methods, requiring extra time commitments from both students and teachers.

‣ **Web-based Classes**

In distance learning, the World Wide Web (WWW, or Web) is frequently used for class presentation and class materials such as the syllabus, lecture information, illustrations and assignments. When there is sufficient capacity, even video can be delivered over the Internet through video 'streaming'. Because the Web is such a valuable resource, Web-based classes will take advantage of links to other Internet resources that apply to the course curriculum. Online research is frequently included in the course learning activities. Specialized software also allows for "threaded conferencing," that visually organizes online class discussions. Conferencing software facilitates online student-to-student and teacher-to-student written discussions. It enables the equivalent of in-class participation on the learner's schedule. This kind of interaction is generally termed "asynchronous".

‣ **Course Management Software and Outsourcing**

Many institutions have purchased specialized software packages and/or services through which they manage the online, Web-based classroom. In addition to providing a place and format for course content, such software can also administer tests, provide user e-mail, facilitate public discussions, or create and manage small work groups within the class. Depending on the system, teachers may be able to monitor the number of student interactions and track assignments. Some of these systems require students to load proprietary software onto their own computers and therefore require specialized technical support.

Generally speaking, larger institutions have the organizational capacity to manage the support systems (servers, Internet access, student support, faculty training, and course development)

themselves. An alternative for smaller institutions has been to outsource these functions paying fees to companies such as "Real Education" or "Embanet", for the operational or technical infrastructure needed to manage the online learning environment.

APPENDIX B

PRINCIPLES OF GOOD PRACTICE FOR ELECTRONICALLY OFFERED ACADEMIC DEGREE AND CERTIFICATE PROGRAMS

Preamble

These Principles are the product of a Western Cooperative for Educational Telecommunications project, **Balancing Quality and Access**: Reducing State Policy Barriers to Electronically Delivered Higher Education Programs.

The three-year project, supported by the U.S. Department of Education's Fund for the Improvement of Postsecondary Education, is designed to foster an interstate environment that encourages the electronic provision of quality higher education programs across state lines. The Principles have been developed by a group representing the Western states' higher education regulating agencies, higher education institutions, and the regional accrediting community.

Recognizing that the context for learning in our society is undergoing profound changes, those charged with developing the Principles have tried not to tie them to or compare them to traditional campus structures. The Principles are also designed to be sufficiently flexible that institutions offering a range of programs--from graduate degrees to certificates--will find them useful.

Several assumptions form the basis for these Principles:

- The electronically offered program is provided by or through an institution that is accredited by a nationally recognized accrediting body.
- The institution's programs holding specialized accreditation meet the same requirements when offered electronically.
- The "institution" may be a traditional higher education institution, a consortium of such institutions, or another type of organization or entity.
- These Principles address programs rather than individual courses.
- It is the institution's responsibility to review educational programs it provides via technology in terms of its own internally applied definitions of these Principles.

CURRICULUM AND INSTRUCTION

Each program of study results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded. An electronically offered degree or certificate program is coherent and complete.
The program provides for appropriate real-time or delayed interaction between faculty and students and among students.
Qualified faculty provide appropriate oversight of the program electronically offered.

INSTITUTIONAL CONTEXT AND COMMITMENT

Role and Mission
- The program is consistent with the institution's role and mission.
- Review and approval processes ensure the appropriateness of the technology being used to meet the program's objectives.

Faculty Support
- The program provides faculty support services specifically related to teaching via an electronic system.
- The program provides training for faculty who teach via the use of technology.

Resources for Learning
- The program ensures that appropriate learning resources are available to students.

Students and Student Services
- The program provides students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services and financial aid resources, and costs and payment policies.
- Enrolled students have reasonable and adequate access to the range of student services appropriate to support their learning.
- Accepted students have the background, knowledge, and technical skills needed to undertake the program.
- Advertising, recruiting, and admissions materials clearly and accurately represent the program and the services available.

Commitment to Support
- Policies for faculty evaluation include appropriate consideration of teaching and scholarly activities related to electronically offered programs.
- The institution demonstrates a commitment to ongoing support, both financial and technical, and to continuation of the program for a period sufficient to enable students to complete a degree/certificate.

EVALUATION AND ASSESSMENT

The institution evaluates the program's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction. Students have access to such program evaluation data.

The institution provides for assessment and documentation of student achievement in each course and at completion of the program.

Master Plan Policy Paper #1-A: Master Plan Enrollment Goals and Enrollment Forecasting Analysis

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ISSUE AREA

Establishing enrollment goals through 2020.

POLICY ISSUE(S)

1. Will the 2000 Master Plan continue and reaffirm the enrollment goals established in the 1996 Master Plan:

    a) **for upper-division enrollment**: by 2010 achieve the national-average participation rate, and by 2020 achieve the national 70th-percentile participation rate; and
    b) f**or lower-division enrollment**: maintain the current high participation rates through 2020.[6]

2. Should the enrollment projections of the 2000 Master Plan reflect the HECB's stated goal of supporting the broadest possible definition of higher education participation?

STUDY QUESTION(S)

1. What is the current student profile?
2. What is the forecasted population profile?
3. How are current enrollment patterns expected to change through 2010? 2020?
4. At what rate will enrollment increase by sector and by class standing?

OVERVIEW AND POLICY CONTEXT

The Higher Education Coordinating Board (HECB) has adopted the use of the participation rate methodology to project postsecondary enrollment. The participation rate methodology, which has projected increasing enrollments in prior Master Plans, employs population forecasts as a major determinant of such enrollment numbers. However, projecting postsecondary enrollment requires consideration of other factors that drive enrollment demand, and that reflect enrollment needs and desired goals.

This paper presents relevant information about the profile of the forecasted population, and the current enrollment patterns in Washington's postsecondary institutions. In past Master Plans, enrollment projections have focused solely on state-funded FTEs at public institutions, and on a

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[6] For this Master Plan, the national average participation rates and 70th-percentile national participation rates for the upper-division and graduate/professional levels are based on 1996 data from the Integrated Postsecondary Education Data System (IPEDS). All postsecondary institutions that receive federal Title IV funds are required to report to IPEDS a broad range of fiscal, demographic, and organizational data.

subset of private, degree-granting institutions. A goal of the current Master Plan is to consider all strategies or pathways that citizens may choose to reach postsecondary education goals.

Enrollment patterns in 1998 suggest that individuals are already using a variety of pathways to meet their higher education goals. The majority of participants in postsecondary education are being served by Washington's public two- and four-year institutions.[7] Independent degree-granting institutions that belong to the Washington Association of Independent Colleges and Universities (WAICU[8]) also serve a substantial number of students. Additionally, a varied group of other degree-granting institutions and private career colleges provide postsecondary opportunities in Washington. Finally, Washington residents are able to access courses and programs through electronic delivery systems (referred to as e-learning) from institutions physically located outside of the state.

The analysis presented in this paper attempts to provide a more comprehensive picture of current postsecondary participation[9] than presented in previous Master Plans. It considers 1) changes in desired educational goals of the state's constituencies, 2) changes driven by the social and economic context of the state, and 3) changes resulting from increased state funding of higher education FTEs. These factors are expected to induce enrollment growth at rates higher than that for the general state population.

Participation Rate: What It Is and How It Works

Participation rate is the percentage of the population engaged in or "participating" in postsecondary education. In past years, the participation rates by class standing have been of interest and concern to the HECB. In 1994, although Washington's lower-division participation rate was relatively high, Washington's upper-division and graduate/professional participation rates were among the nation's lowest. In the 1996 Master Plan, the HECB articulated a goal that the enrollment in Washington upper-division and graduate/professional level education should a reach the national average participation rate by 2010, and the national 70th-percentile participation rate by 2020. (*See Appendix A, Tables 7 and 8 for more detail*)

The way the state supports greater participation is to fund more FTEs, creating more opportunity to accommodate more demand. Accordingly, the Board adopted, most recently in 1996, an incremental approach to increasing upper-division enrollments. This plan would reaffirm the 1996 policy to raise the level of participation in upper-division programs to the national average by the year 2010.

So far, the theory behind the numbers has been supported. Specifically, the Legislature has funded additional enrollments close to the recommended HECB levels, and actual enrollment (the test of the theory) has grown accordingly. This also suggests that the incremental plan to reach the national average by 2010 is at least equal to, and may be below, actual demand.

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[7] Of the postsecondary FTE enrollment that has been captured for this paper, almost 85 percent are being served by public two-year or four-year institutions; nearly 75 percent are state-funded FTE.

[8] WAICU members include Seattle Pacific University, Seattle University, University of Puget Sound, Pacific Lutheran University, Gonzaga University, Heritage College, St. Martin's, Walla Walla College, Whitman College, and Whitworth College.

[9] This enrollment picture does not include participation in religious-exempt institution, foreign-degree granting institutions, and non-degree granting participation not already included in relevant sectors.

The Application of Participation Rate: Three Models

Using the enrollment projection method approved by the Board at its February 1999 meeting, three enrollment models have been developed. These models address the two underlying policy issues articulated at the beginning of this paper:

MODEL ONE

The first model mirrors the process used in the 1996 Master Plan. Specifically, this involved establishing current participation rates for state-funded enrollments at public institutions, applying those participation rates to the population forecasts, and incorporating current and projected enrollment figures from WAICU institutions in the following manner:

- **Public two-year institutions.** Fall 1998 participation rates of state-funded headcounts were applied to population forecasts for 2010 and 2020. FTEs were calculated using OFM FTE-per-headcount ratios.
- **Public four-year institutions.** Fall 1998 lower-division participation rates were applied to population forecasts for 2010 and 2020. The national average participation rate was applied to population forecasts for upper division and graduates/professionals for 2010, and the national 70th-percentile participation rates for 2020. In addition, 50 FTEs were added to the base enrollment and to the 2010 and 2020 enrollments to reflect budgeted upper-division FTEs for the Rural Natural Resources Impact Area Program.
- **WAICU institutions.** The current FTEs are based on numbers reported to IPEDS. The projected enrollment for 2010 includes an increase of 8,000 FTEs as indicated by WAICU; this level of FTEs is maintained in 2020.[10] The current and projected FTE enrollments for 2010 and 2020 derived from this model are presented in Table A.

Table A: Model 1 – Current and Projected FTEs, Public State-funded Enrollment and WAICU Institutions

Institutional Sector	1999	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year State-funded (n=33)	122,121	144,228	22,107	153,877	31,756
Public four-year State-funded (n=6)					
Lower Division	27,959	35,878	7,919	34,554	6,595
Upper Division & Grad/Professional	53,093	81,227	28,134	107,960	54,867
Public four-year subtotal	81,052	117,105	36,053	142,514	61,462
WAICU (n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division & Grad/Professional	14,302	19,166	4,864	19,166	4,864
WAICU Subtotal	23,522	31,521	7,999	31,521	7,999
Grand Total	226,695	292,854	**66,159**	327,912	101,217

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[10] The decision to maintain 2010 WAICU levels into 2020 is conservative. It assumes that by 2010 schools will have met capacity and are not likely to increase much beyond the 2010 levels. Individual schools were administered the HECB survey; their responses to the survey were used to substantiate the WAICU estimate of 8,000 additional FTES in 2010. Nine of the ten WAICU schools responded to the HECB survey; four of the nine indicated additional growth between 2010 and 2020. This additional growth is not, however, reflected in the 2020 projections.

The resulting projected increase in FTE enrollments from 1998 to 2010 is 66,159. This is less than the projected increase of 84,100 in the 1996 Master Plan.[11] The major factors that account for the difference between the projection obtained in 1996 and the current projection for this 2000 Master Plan, include 1) legislative funding of additional higher education enrollments between 1996 – 1998; 2) slower increases in the forecasted population, and 3) decreases in national participation rates.

Model One Summary:
- Lower-division enrollment grows to 192,461 in 2010 and 200,786 in 2020
- Upper-division/Graduate/Professional enrollment grows to 100,393 in 2010 and 127,126 in 2020.
- Overall additional higher education enrollments: 66,159 in 2010 and 101,217 in 2020.

MODEL TWO

In the second model, additional enrollments are incorporated to provide a more comprehensive picture of postsecondary participation in the state. Projected enrollments are based on what individual institutions have indicated or, in the absence of institutional projections, on increases relative to expected population growth.

- **Public two-year institutions.** Fall 1998 non-state-funded FTEs are added to the enrollment base. Increases in 2010 and 2020 are proportional increases based on the state-funded increases and fall 1998 distribution between state-funded and non-state-funded FTEs.
- **Public four-year institutions.** Fall 1998 non-state funded FTEs as reported to OFM through Higher Education Enrollment Report (HEER), or reported directly to HECB through telephone inquires were added to the base enrollment. Increases for 2010 and 2020 were proportional increases based on the state-funded increases and fall 1998 distribution between state-funded and non-state-funded FTEs.
- **Other degree-granting institutions.** The current student population incorporates information provided by institutions through IPEDS, the HECB survey, HECB interviews, and Degree Authorization Act (DAA) applications. Increases in 2010 and 2020 are based on information provided by the individual schools on the HECB survey, or through HECB interviews, or, in the absence of such information, on increases proportional to the population increases.
- **At the 44 private career schools[12],** the student population consists of what was reported to IPEDS for fall 1997. Increases for 2010 and 2020 are proportional increases based on the population increases.

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[11] For more detail see The *Challenge* for Higher Education, 1996 State of Washington Master Plan for Higher Education published by the Washington Higher Education Coordinating Board.

[12] Note that the Private Career Schools sector includes only those schools that reported enrollment data to IPEDS for fall 1997. There are substantially more schools approved by the Workforce Training and Education Coordinating Board that offer courses and programs for Washington residents. However, these schools are not required to provide data to IPEDS.

The current and projected FTE enrollments for 2010 and 2020 derived from the second model are presented in Table B.

Table B: Model 2 - Current and Projected FTEs, Public, WAICU, Other Degree-Granting, Private Career Schools

Institutional Sector	1999	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year Institutions (n=33)					
State Funded	122,121	144,228	22,107	153,877	31,756
Non-State Funded	24,663	29,128	4,465	31,076	6,413
Public two-year Subtotal	146,784	173,356	26,572	184,953	38,169
Public four-year Institutions (n=6)					
Lower Division - State Funded	27,959	35,878	7,919	34,554	6,595
Upper Division &Grad/Professional - State Funded	53,093	81,227	28,134	107,960	54,867
Upper Division &Grad/Professional - Non-State Funded	3,417	4,937	1,520	6,009	2,592
Public four-year Subtotal	84,469	122,042	37,573	148,523	64,054
WAICU Institutions (n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division & Grad/Professional	14,302	19,166	4,864	19,166	4,864
WAICU Subtotal	23,522	31,521	7,999	31,521	7,999
Other Degree-Granting (n=38)					
Lower Division	3,167	4,882	1,715	5,860	2,693
Upper Division & Grad/Professional	6,596	11,422	4,826	12,927	6,331
Other Degree-Granting Subtotal	9,763	16,304	6,541	18,787	9,024
Private Career Schools (n=44)	8,221	9,924	1,703	11,307	3,086
Grand Total	272,759	353,147	**80,388**	395,091	122,332

Model Two Summary:
- Lower-division enrollment grows to 236,395 in 2010 and 249,029 in 2020
- Upper-division/Graduate/Professional enrollment grows to 116,752 in 2010 and 146,062 in 2020.
- Overall additional higher education enrollments: 80,388 in 2010 and 122,332 in 2020 .

MODEL THREE

A major consideration of the current Master Plan is the role of technology and e-learning in enhancing access to postsecondary education. Through the HECB survey and interviews, institutions have indicated a wide range of efforts to provide courses through electronic delivery systems. In addition, institutions have indicated that the use of technology for different *aspects* of postsecondary education is widespread. Although many expect that the future will bring more electronic course and program offerings, currently the proportion of such offerings appears to be less than five percent of total offerings. Some institutions claim not to participate at all in e-learning, while others describe it as their primary education-delivery method.

Model Three adds estimates of participation through e-learning. Nearly 300 institutions make available e-learning-only degree programs to Washington state residents. A placeholder figure of 2500 FTEs was added to the enrollment base for e-learning-only programs. The increases for this e-learning-only sector are proportional to the increases in population forecasts. This 2500 FTE placeholder will be replaced with enrollment projections gained from a survey now in progress. The survey recipients are institutions physically located outside this state, who offer to

Washington State residents higher education degree programs solely through distance-learning technology.

The current and projected FTE enrollments derived from Model 3 for 2010 and 2020 are presented in Table C.

Table C: Model 3 - Current and Projected FTEs, Public, WAICU, Other Degree-granting, Private Career Colleges, Distance Education-only

Institutional Sector	1998	2010	Difference 1998-2010	2020	Difference 1998-2020
Public two-year institutions (n=33)					
State Funded	122,121	144,228	22,107	153,877	31,756
Non-State Funded	24,663	29,128	4,465	31,076	6,413
Public two-year subtotal	146,784	173,356	26,572	184,953	38,169
Public four-year institutions (n=6)					
Lower Division - State Funded	27,959	35,878	7,919	34,554	6,595
Upper Division & Grad/Professional - State Funded	53,093	81,227	28,134	107,960	54,867
Upper Division & Grad/Professional - Non-State Funded	3,417	4,937	1,520	6,009	2,592
Public four-year subtotal	84,469	122,042	37,573	148,523	64,054
WAICU institutions(n=10)					
Lower Division	9,220	12,355	3,135	12,355	3,135
Upper Division &Grad/Professional	14,302	19,166	4,864	19,166	4,864
WAICU subtotal	23,522	31,521	7,999	31,521	7,999
Other Degree-granting (n=38)					
Lower Division	3,167	4,882	1,715	5,860	2,693
Upper Division & Grad/Professional	6,596	11,422	4,826	12,927	6,331
Other Degree-Granting Subtotal	9,763	16,304	6,541	18,787	9,024
Private Career Schools (n=44)	8,221	9,924	1,703	11,307	3,086
E-learning Only (n=~300)	2,500	2,969	469	3,382	882
Grand Total	275,259	356,116	**80,857**	398,473	123,214

Model Three Summary:
- Lower-division enrollment grows to 237,879 in 2010 and 250,720 in 2020
- Upper-division/Graduate/Professional enrollment grows to 118,237 in 2010 and 147,753 in 2020.
- Overall additional higher education enrollments: 80,857 in 2010 and 123,214 in 2020.

RECOMMENDATIONS

The following actions are recommended to effect the HECB's recognition and support of multiple pathways to postsecondary education:

1) Maintain enrollment goals articulated in the 1996 Master Plan:

 a) for lower-division enrollment: to maintain the current high participation rate, and
 b) for upper-division and graduate/ professional enrollment: by 2010 achieve the national average participation rate, and the national 70th-percentile participation rate by 2020.

2) Adopt Model Two for the development of enrollment levels for the 2000 Master Plan, and

3) Continue to monitor and develop Model Three**,** specifically, data relative to the participation of students in postsecondary education through distance learning.

ASSUMPTIONS AND METHODOLOGY BEHIND ENROLLMENT ANALYSIS

Enrollment projections using the participation rate methodology incorporate student enrollment patterns and population forecasts. The specific methodology chosen for the present enrollment projections makes the following assumptions:

- Current participation rates at public two-year and four-year institutions were calculated for each age, gender, and class-standing category, based on fall 1998 *actual* enrollments. Enrollment projections employing the participation rate methodology are based on current age and gender participation rates in Washington's postsecondary institutions. The OFM and the HECB have used age and gender participation rates as the basis of past enrollment projections. In addition, the HECB has incorporated class standing (i.e., lower division, upper division, graduate, and professional) designations into the HECB participation rates.
- At public two-year and four-year institutions, the current (1998) lower-division participation rates were applied to population forecasts through 2020. For 2010, the upper-division and graduate/professional participation rates were increased to the national participation rates; for 2020 they were increased to the national 70[13]-percentile participation rates.
- Enrollment at WAICU institutions was increased by 8000 FTEs in 2010, and maintained through 2020.
- The enrollment at other independent, four-year degree-granting institutions was increased in 2010, and in 2020 either as institutions indicated they expected to grow, or relative to population increases (for those institutions that did not provide projection information).
- The enrollment (FTEs) at private career institutions was increased in 2010, and at the forecasted rate of population increase for 2020.
- As a "place-holder," current FTE participation through e-learning-only courses not included in the other sectors is estimated to be 2500 FTEs, with increases in 2010 and 2020 proportional to population increases. The HECB is seeking additional data for distance learning enrollment, which is expected to be available in late spring.
- For the purposes of this analysis, "off-site" is defined as offerings that do not involve a physical seat in a classroom (that is, a classroom on an institution's campus or in a facility leased for the specific purpose of offering a course). Students may access "off-site" courses residence halls, homes, work offices, or other similar space. Current estimates of such offerings amount to less than three percent of FTEs in the sectors defined, with the exception of the e-learning-only sector. There is an expectation that the "off-site" share of the FTE enrollment will change substantially by 2010.

Calculating and Expressing Enrollment: Headcount and Full-time Equivalent Students

Unduplicated headcount is used to generate age-specific participation rates. That is, the total number of state residents of a particular age in a given year is multiplied by the participation-rate goal. These numbers are then converted to full-time student equivalents.

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[13] The national average participation rate and national 70th-percentile were based on the most current final IPEDS data available, which was for fall 1996.

The headcount-to-FTE conversion method used in this study depended on the institutional sector, and, in some cases, on the data provided by the institutions. For example, some institutions provided only FTE data and, therefore, it was not possible to calculate headcount participation rates for them; their FTEs numbers were added at the appropriate step.

For Washington public institutions, headcounts were converted to FTEs using the most current available headcount-to-FTE conversion ratios provided by OFM. For other institutions, the federally-accepted conversion assumptions were used: a full-time headcount being one FTE, and the part-time headcount being a third of an FTE (*available headcount data are presented in Appendix A, Table 3*).[14]

Although the refinements of the particular ratio used are based on reasonable assumptions, we have simplified the process and elected to use the three-year-annual-average ratio for calculating FTEs from headcounts for all years 2000-2020. The most current three-year-annual-average ratio is based on 1995-96 to 1997-98 numbers. (The 1998-99 annual FTE count will not be available to update the three-year average until fall 1999.) For the year 1999-2000, the prior year's (1997-98) annual average ratio is used. The headcount to FTE ratios shown in Table 11 represent the OFM ratios for public institutions and ratios calculated using a federally-accepted calculation for the WAICU, Other Degree-Granting, and Private Career Schools. Historical data show year-to-year changes in the ratios are present but minimal.

Higher Education Sectors Included in Enrollment Projections

The sectors that are included in the present participation rate calculations include the following:[15]

1. **Washington's public two-year institutions:** This sector includes the 33 community and technical colleges. FTE enrollments in these institutions are funded by one of three sources: **state, contract, or student. Contract and student-funded** courses are those for which no state funds are used to cover costs of instruction.

   According to the *Academic Year Report* of the State Board for Community and Technical Colleges, "The costs for contract-funded courses are paid by an enterprise such as an employer or social service agency for the benefit of its employees or clients."[16] In 1998, the SBCTC had several types of contracts including Running Start, Contract International, Department of Corrections, and local businesses contracts. The *Academic Year Report* further reports that, "Student-funded class costs are paid entirely by the individuals who enroll. Student-funded offerings include avocational courses such as foreign language for travelers, and training courses such as microcomputer applications."[17] About 82 percent of the fall 1998 FTEs participating in the community and technical colleges were state-funded, about 15 percent were contract-funded, and 3 percent were student-funded.

   In past Master Plans, enrollment projections for the community and technical colleges were based on state-funded enrollments only. The procedures used in this Master Plan use state-funded enrollment only in the calculation of the baseline participation rate data. Contract-

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[14] In past years, OFM has applied a five-year annual average FTE in making the conversions to all future years. Most recently OFM has used the following convention: the previous year of 1997-98 for 1999-00 to 2001-02, three year average of 1995-96 to 1997-98 for 2006-07 to 2019-20, and an equal increment FTE of the difference between 2003-2006.

[15] See the appendix for a listing of the institutions included in each of the sectors.

[16] SBCTC, Academic Year Report 1997-98, pp.3.

[17] Ibid.

and student-funded FTEs are applied subsequent to the baseline calculations. Current participation rates for the public two-year institutions are based on fall 1998 enrollments provided by SBCTC.

2. **Washington's public four-year institutions**: This sector includes main and branch campuses of the state's six public four-year institutions. Current participation rates for public four-year institutions are based on fall 1998 enrollments, which are provided to OFM through the Higher Education Enrollment Report forms.

3. **Private four-year degree-granting institutions:** This sector includes institutions that are part of the Washington Association of Independent Colleges and Universities (WAICU). There are 10 institutions in this sector. Headcount and FTE information for these institutions are based on fall 1997 data that WAICU institutions reported to the federal Integrated Postsecondary Education Data System (IPEDS).[18]

4. **Other Degree-granting Institutions:** This sector includes the 38 institutions categorized as follows:
   - Those that reported to IPEDS on their 1997 or 1998 fall enrollments (n=12);
   - Those authorized through the Degree Authorization Act (DAA) and responded to the HECB Survey (n=19); and
   - Those authorized through the Degree Authorization Act that did not respond to the HECB Survey but provided expected enrollment data in their DAA application or responded to a telephone interview (n=7).

5. **Private Career Institutions**: This sector includes 44 schools that reported to IPEDS in fall 1997. These institutions are two-year-or-less institutions.

6. **Distance Education-only Institutions:** These are institutions that are physically located outside of Washington, and provided only distance education courses and programs to Washington residents. An estimated 277 such institutions presently offer such courses and programs.

The assumptions and methodologies described above were used to provide the data in Table D. This table illustrates differences in enrollment projections in 2010 and 2020 under three different conditions. The difference among the three results from the use of different participation rates at the upper-division and graduate/professional levels at public four-year institutions in 2010 and 2020.

- Under the first condition, current 1998 participation rates are applied to population forecasts in 2010 and 2020.
- Under the second condition, the upper-division and graduate/professional participation rates are increased to the (1996) national participation rate levels in 2010 and 2020.

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[18] Institutions that receive federal Title IV dollars are required to fulfill IPEDS reporting requirements. Data for religious exempt schools are not included in the participation rates for this sector. Data are available by **not-for-profit and for-profit** separately. However, in studying enrollment patterns it became evident that the profit status of an institution is not a major factor in difference in enrollment patterns. It is rather whether schools enroll a more traditional-age student population or not. Therefore, four-year degree granting institutions that are not Washington public schools are divided into those that belong to the WAICU and those that do not.

- Under the third condition, the upper-division and graduate/professional participation rates are increased to the national average participation rates in 2010, and to the 70th percentile in 2020.

Table D: FTE Enrollment Projections

	1998-1999	2010	Difference 1999-2010	2020	Difference 1999-2020
Condition 1: Current Service Level					
Lower Division	195,351	236,396	41,045	249,029	53,678
Upper Division/Grad/Professional	77,408	100,600	23,192	107,579	30,171
TOTAL	272,759	336,996	64,237	356,608	83,849
Condition 2: 2010 GOAL-National Average Participation Rate					
Lower Division	195,351	236,395	41,044	249,029	53,678
Upper Division/Grad/Professional	77,408	116,752	39,344	125,292	47,884
TOTAL	272,759	353,147	80,388	374,321	101,562
Condition 3: 2020 GOAL- National 70th Percentile Participation Rate with 2010 Goal - National Participation Rate					
Lower Division	195,351	236,395	41,044	249,029	53,678
Upper Division/Grad/Professional	77,408	116,752	39,344	146,062	68,654
TOTAL	272,759	353,147	80,388	395,091	122,332

Note: Does not include religious exempt, foreign degree-granting, DAA-exempt institutions, and e-learning-only institutions.
Increases in 2010 & 2020 reflect 1) population forecasts, 2) HECB participation-rate goals, 3) 8,000 additional FTEs reported by WAICU institutions, 4) FTE increases as reported by institutions responding to the HECB survey, and 5) increases proportional to population forecast increases for remaining institutions.

UNDERLYING DEMOGRAPHICS: WHAT CHANGES TO EXPECT IN WASHINGTON'S POPULATION

The State's Population Through 2010: A Population Profile

The Washington State Office of Financial Management (OFM) is the state's central agency for budget management and forecasting data. State law [RCW 43.62] designates OFM as the state's official population and student enrollment forecasting entity. Therefore, for all enrollment planning and analysis, the HECB uses OFM data. Extensive analysis of demographic data indicates that the demographic profile of Washington residents participating in postsecondary education will not change significantly between 2000 and 2010. Following is a brief overview of the analysis and the conclusions reached. The information presented in this section is about the profile of the population forecasts and the scope of available data.

OFM's recent population forecasts show the following:

- The rate of increase for the general population of Washington state through 2010 will be 14.9 percent and 30.4 percent through 2020;

- The state's 17-year-old-or-above population will increase 18.7 percent through 2010, and at the rate of 35.4 percent through 2020;
- Racial/ethnic minority populations are forecasted to increase faster than other groups, but are likely to remain a relatively small proportion of overall enrollment;
- Population growth will continue to be the highest in the Vancouver area, as well as Thurston, Pierce, King, and Snohomish counties;
- The number of high school graduates will continue to increase;
- The population growth rates for women and men are forecasted to remain constant; participation rates for women are higher than for men in each of the different sectors and in the state's 17-or-above population**.**

The age profile of the state's forecasted population is important for conducting enrollment projections. Because participation rates and growth rates for different age groups in postsecondary education vary, applying individual-age group participation rates to the relevant age-group population forecasts provides a more precise enrollment projection than by using multiple age categories. The information that follows provides an indication of how the growth of relevant postsecondary age groups varies.

In 1998, 74.7 percent of the state's population was 17 years old or above. This percentage is forecasted to increase to 77.3 percent by 2010, and 77.5 percent by 2020. Between 1998 and 2010 the 17-or-above population is expected to increase at a rate (20.6 percent) faster than that of the total population (16.4 percent). Further, between 2010 and 2020, the growth rate of the 17-or-above population is expected to be 13.5 percent, about the same as for the total population. (*See Appendix A, Table 1*)

Less is known about population increases by regarding race and ethnicity.[19] Data is not available in the detail required for meaningful analysis. Although OFM has provided current forecasts by racial/ethnic breakdown for the specific year 2020, more detailed forecasts by year and age between 1999 and 2020 are not currently available. The 2020 forecasts show that the proportion of specific racial/ethnic minority groups in the state's population are expected to increase. For example, in 1998 six percent of the state's population was of Hispanic background; by 2020 over nine percent is expected to be of Hispanic background. (*See Appendix A, Table 2*)

Population growth and participation rates by county

OFM population forecasts by county show that counties that are the centers of population in 1998 are expected to continue to remain centers of population in 2010 and 2020. For example, in 1998, King county had the highest percentage of the state's population, 29.3 percent, and it is forecasted to continue to do so in 2010 (28.0 percent) and in 2020 (26.7 percent).

Between 1998 and 2010, Jefferson, San Juan, Thurston, Island, and Franklin counties are expected to experience the largest *percentage* increases in their county populations. However, the absolute number of people represented by those increases is relatively small, especially compared to expected actual numerical population increases in counties with large populations such as King and Pierce counties. Consequently, the population of Jefferson, San Juan, Thurston, Island, and Franklin is expected to grow only from six to seven percent of the total state population between 1998 and 2010.

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[19] The race/ethnic projections were provided by OFM for the 2020 Commission; OFM did not provide projections for 2010.

There are many factors that drive county participation rates. Among them are proximity to postsecondary institutions, economic incentives for obtaining a postsecondary education, and cultural norms regarding participation in postsecondary education. That is, the reasons why students seek acceptance at and subsequently enroll in any of the postsecondary institutions vary. Although the county data[20] themselves do not indicate the extent to which local access to postsecondary education impacts participation, other studies have indicated that it does to a large extent.[21]

County participation rates at public two-year and public four-year institutions in fall 1998 varied by sector.[22] At the public two-year institutions, the five counties with the highest participation rates were Ferry, Whatcom, Walla Walla, Franklin, and Lewis; those with the lowest were Douglas, Whitman, Kittitas, Skamania, and Klickitat. At the public four-year institutions, the five counties with the highest participation rates were Kittitas, Whitman, Benton, Garfield, and Lincoln; the five with the lowest were Pacific, Wahkiakum, Mason, Island, and Jefferson.

The number of high school graduates is also on the increase, according to OFM, which estimates that in 2009-2010, the number of graduates will be 70,151, an increase of 19.1 percent. This increase in graduates indicates a potential increase in demand for postsecondary education. Because of K-12 school-reform efforts, more high school graduates are expected to be ready for postsecondary education, and may place an even greater demand on higher education services. Currently, analysis shows that the greatest proportion of students, 40 percent, is in vocational programs and over a third are in academic/transfer programs.[23] *(See Appendix A, Table 9 for detail)* From the ratios presented in Table E, it appears that more students attend fulltime at public four-year and private career schools than at the public two-year, WAICU, and Other Degree-granting institutions.

Table E: FTE-to-Headcount Ratios by Sector*

Sector	Ratio of FTE to Headcount
Public two-year	0.69
Public four-year	0.91
WAICU	0.85
Other Degree-Granting (n=11)	0.77
Private Career Schools (n=44)	0.94

*The FTE-to-headcount ratios for public institutions are three-year annual averages computed by OFM. The most current three-year average available is for the 1995-96 to 1997-98 school years. The FTE-to-headcount ratios for other sectors are based on current fall enrollment. #FTEs = (# full-time +1/3# part-time) headcount.

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[20] County-origin data are available for public four-year and public two-year institutions only.

[21] One such study was the Rural Counties study conducted by HECB.

[22] This information is based on data included in a forthcoming OFM publication.

[23] The counts by intent are duplicated counts. That is, some students indicated more than one intent and were counted for each intent. The total headcount by intent is 224,710, while the total unduplicated count is 177,265, a difference of 47,445.

APPENDIX A

TABLE 1

Table 1. Percent of State Population 17 Years Old or Above by Gender

Year	Male	Female
1998	49.3	50.7
2010	49.5	50.5
2020	49.6	50.4

TABLE 2

Table 2. Percent of State Population and Percent of Change in Population by Racial/Ethnic Identification

Racial/Ethnic Group	Percent of State Population in		Change in Percent of Population 1998 to 2020
	1998	**2020**	
White/Caucasian	83.5	76.9	-6.6
Hispanic	6.0	9.1	+3.1
Asian & Pacific Islander	5.6	8.6	+3.0
Black/African American	3.2	3.7	+0.5
Indian, Eskimo, & Aleut	1.6	1.7	+0.1

*The numbers in column 2 do not add to 100 and the numbers in column 4 do not add to zero due to rounding.

TABLE 3

Table 3. Fall 1998 Headcounts and Percentages of the 17-Year-Old-or-Above Population by Sector

Sector	Headcount	Headcount Percent of 17-or-Above Population
Washington Public two-year – State Funded (n=33)	177,265	4.18
Washington Public four-year – State Funded (n=6)	88,857	2.09
WAICU four-year Degree Granting Institutions (n=10)	27,563	0.65
Other Degree Granting Institutions (n=37)	13,099	0.31
Private Career Schools (n=44)	8,757	0.21
TOTAL	**315,541**	7.43

The following are not represented in the above headcounts: Public two-year (24,663 FTEs) and four-year (3,417 FTEs) non-state funded; University of Phoenix (700 FTEs), and e-learning only.

TABLE 4

Table 4. Percent of State Population Enrolled (Headcount) By Age Group and Sector (i.e., participation rate)

Sector	Headcount Percent of State Population Age					
	17-or-Above	17-24	25-34	35-64	65-or-Above	Unknown
Public two-year Institutions	4.2%	12.5	5.4	2.3	0.8	0.1
Public four-year Institutions	2.1%	10.5	2.3	0.4	0.0	0.0

TABLE 5

Table 5. Percent of State Population 17-of-Above Enrolled (Headcount) by Gender and Sector

Sector	Male	Female
Public two-year Institutions	3.6	4.7
Public four-year Institutions	2.0	2.2
WAICU Institutions	0.5	0.8
Other Degree-Granting (n=11)*	0.2	0.2
Private Career Schools (n=44)	0.2	0.3

*Headcount by gender were only available for 11 of the "Other Degree-Granting Institutions.

TABLE 6

Table 6. Gender Distribution of Student Population

Sector	Male	Female
State 17-or-Above Population, 1998	49.3	50.7
Public two-year Institutions	42.5	57.5
Public four-year Institutions	46.7	53.4
WAICU Institutions	40.6	59.4
Other four-year Degree-Granting (n=11)	44.1	55.9
Private Career Schools (n=44)	38.9	61.1

*Headcount by gender were only available for 11 of the "Other Degree-Granting Institutions.

TABLE 7

Table 7. Percent of Current Enrollment (Headcount) by Class Standing

	Percent Designated as		
	Lower Division	Upper Division	Graduate/ Professional
Public four-year Institutions	34.5	48.6	16.8
WAICU Institutions	35.9	40.1	24.0
Other Degree-Granting Institutions (n=37)	31.3	37.3	39.4

TABLE 8

Table 8. Percent of State Population 17-or-Above Currently Enrolled (Headcount) by Class Standing (i.e., participation rates)

	Percent Designated as		
	Lower Division	**Upper Division**	**Graduate/ Professional**
Public four-year Institutions	0.7	1.0	0.4
WAICU Institutions	0.2	0.3	0.2
Other Degree-Granting Institutions (n=37)	0.1	0.1	0.1

TABLE 9

Table 9. Percent of Currently Enrolled Headcount and State Population 17-or-Above by Intent, Public two-year Institutions, State-Funded Enrollment*

	Percent of Total Headcount	**Percent of State Population 17-or-Above**
Academic	34.3	1.8
Vocational	40.4	2.1
Basic Skills/Developmental	25.4	1.4

*Counts by Intent are duplicated counts.

Appendix B. List of Institutions

Public Two-year Institutions	Public Four-year Institutions	WAICU Institutions
Bates Technical College	Central Washington University	Gonzaga University
Bellevue Community College	Eastern Washington University	Heritage College
Bellingham Technical College	The Evergreen State College	Pacific Lutheran University
Big Bend Community College	University of Washington Seattle	Seattle Pacific University
Centralia College	University of Washington Bothell	Seattle University
Clark College	University of Washington – Evening	Saint Martin's College
Clover Park Technical College	University of Washington Tacoma	University of Puget Sound
Columbia Basin College	Washington State University Pullman	Walla Walla College
Edmonds Community College	Washington State University Vancouver	Whitman College
Everett Community College	Washington State University Spokane	Whitworth College
Grays Harbor College	Washington State University Tri-Cities	
Green River Community College	Western Washington University	
Highline Community College		
Lake Washington Technical College		
Lower Columbia College		
North Seattle Community College		
Olympia College		
Peninsula College		
Pierce College		
Renton Technical College		
Seattle Central Community College		
Seattle Vocational Institute		
Shoreline Community College		
Skagit Valley College		
South Puget Sound Community College		
South Seattle Community College		
Spokane Falls Community College		
Spokane Community College		
Tacoma Community College		
Walla Walla Community College		
Wenatchee Valley Community College		
Whatcom Community College		
Yakima Valley College		

Other Degree Granting Institutions	**Private Career Colleges**
Antioch University - Seattle	Academy of Hair Design
Bastyr University	American College of Professional Education
Chapman University (several locations)	Art Institute of Seattle
City University	Bellevue Beauty School
Columbia College	Bellingham Beauty School
Cornish Institute	BJ'S Beauty and Barber College
DigiPen Institute of Technology	Brenneke School of Massage
Embry-Riddle Aeronautical University	Bryman College
Fred Hutchinson Cancer Research	Business Computer Training Institute (7 locations)
George Fox University	Clare's Beauty College
Golden Gate Baptist	Court Reporting Institute and Agency
Golden Gate University-Seattle	Divers Institute of Technology
Henry Cogswell College	Eton Technical Institute (3 locations)
ITT Technical Institute of Seattle	Everett Plaza Beauty School
Johns Hopkins	Gene Juarez Academy of Beauty
Lewis & Clark	Gene Juarez Academy of Beauty –Branch Campus
Linfield College	Glen Dow Academy of Hair Design
Lutheran Bible Institute of Seattle	Greenwood Academy of Hair
Northwest Aviation College	Interface Computer School
Northwest College of Art	International Air Academy incorporate
Northwest College of the Assemblies of God	ITT Technical Institute (2 locations)
Northwest Indian College	Magee Brothers Beauty School
Northwest Institute of Acupuncture & Oriental Medicine	Mt. Vernon Beauty School
Nova University	Perry Technical Institute
Old Dominion University	Phagans' Orchards Beauty School
Pacific Oaks College NW	Pima Medical Institute
Park College	Professional Beauty School (3 locations)
Pepperdine University	Resource Center for the Handicapped
Puget Sound Christian College	Seattle Massage School – Tacoma Campus
Seattle Institute of Oriental Medicine	Seattle Massage School – Everett Campus
So. Illinois University Carbondale	Seattle Massage School -- High Tide Inc.
U of Portland	Stylemaster College of Hair Design N
University of Phoenix	Western Business College
Vincennes University	
WA School of Professional Psychology	
Walden University	
Western Oregon	
Western Seminary	

RESOLUTION 99-10

WHEREAS, the Higher Education Coordinating Board believes there are many paths Washington State citizens may follow in order to achieve their postsecondary education goals; and

WHEREAS, those education goals might result in a certificate, skill-set, or degree; might occur at a public or private institution, or at a two- or four-year institution; or might occur entirely in an electronic format; and

WHEREAS, enrollment is the common measure of participation in postsecondary education activities in this and other states; and

WHEREAS, the state's higher education enrollment can be established in terms of the participation rate of Washington citizens in higher education compared to similar measures of those in other states; and

WHEREAS, the higher education aspirations of Washington citizens are likely equal to or greater than that of their counterparts across the nation; and

WHEREAS, long-term projections of the state's population will fluctuate over time as will other states' participation rates and other factors used in enrollment projections;

WHEREAS, since the 1996 Master Plan, the state has made good progress toward Master Plan enrollment goals to maintain the current participation rate for lower-division higher education, and for upper-division and graduate/ professional levels to achieve the national-average participation rate by 2010 and the 70th percentile nationally by 2020

NOW THEREFORE BE IT RESOLVED, in order to provide as complete picture as possible of postsecondary education in the state, the Board's Master Plan for the state to the extent possible should reflect the variety of providers and their contribution to postsecondary education in the state, and

BE IT FURTHER RESOLVED, the HECB should maintain enrollment goals articulated in the 1996 Master Plan: to maintain the current high participation rate goal for lower-division enrollment, and to achieve the national average participation rate by 2010 and the 70th percentile nationally by 2020 for upper-division and graduate/ professional enrollment.

Adopted:

April 14, 1999

Attest:

_____
David Shaw, Secretary

_____
Larry Hanson, Member

Master Plan Policy Paper #4: Facility Capacity and Utilization to Provide a Quality Educational Experience

April 1999

ISSUE AREA

How can existing facilities be better utilized to enhance enrollment opportunity for Washington citizens?

POLICY ISSUES

- How will Washington State develop and implement changes that promote the integration of technology with the best use of physical spaces to expand and improve educational opportunity?

- How can the planning for additional enrollment capacity encourage and reflect institutional operating practices that promote the full use of existing and planned spaces?

- Should planning for enrollment growth be based on modifying institutional space utilization practices to optimize use of existing and planned physical spaces?

- What actions can be taken to enhance the quality of the learning environment and improve utilization practices?

STUDY QUESTIONS

- What is the existing enrollment capacity of the public institutions of higher education under current utilization standards for classrooms, class labs, and faculty offices?

- How do adjustments in (1) the average weekly hourly use of instructional space and (2) the average weekly hours of "seat-time" in classrooms and class labs affect projected enrollment capacity?

- How can these adjustments in space utilization be implemented to improve the quality of the educational experience?

- What are the constraints associated with achieving increased utilization levels?

- What is the practical range of institutional growth capacity?

OVERVIEW

This is the first of two papers to be presented to the Board concerning the enrollment capacity and utilization of Washington's public institutions of higher education. This topic is one of several the Board will examine as it seeks new strategies to accommodate significant higher education enrollment demand. These strategies will be set forth to the Legislature and governor in the Board's 2000 Master Plan for Higher Education.

This paper discusses principles of capacity and utilization and, by providing the baseline enrollment capacity estimates for existing facilities, lays the groundwork to consider and evaluate alternatives for achieving greater enrollment capacity through changes in utilization levels. This paper also distinguishes between capacity estimates based on numeric calculations and the real or desired growth capacity of the institutions. Finally, this paper examines options to achieve enhanced utilization of physical facilities while improving the quality of the educational experience.

The data provided in this report concerning the effect of increased utilization assumptions on enrollment capacity are presented at a system level for policy discussion purposes. In May 1999, the follow-up analysis to this report will provide specific recommendations concerning institutional capacity levels and utilization goals. The May update also will provide cost estimates associated with increased capacity levels.

POLICY CONTEXT

The relationship of the physical capacity of institutions of higher education to current or projected student enrollment has significant policy implications. If capacity substantially exceeds enrollment, the Board may wish to consider why space is not being used more intensively. For example, the programs offered may need to be redesigned to better suit the facilities available, tuition and fees might be too high, population shifts might have occurred, or admission policies might be overly restrictive. Changes in policy may be needed to more effectively use the capacity that has or will be created.

Conversely, if the capacity is substantially less than current utilization or projected demand, policies need to be examined to determine the most appropriate steps to meet the demand. The purpose of this paper is to examine the relationship of enrollment capacity of the public colleges and universities and their branches, centers and programs, to state policies on student access.

Finally, changes in space utilization practices may have an affect on fundamental cultural values and expectations at the institutions — both for the faculty and students. Efforts to use facilities more intensively must recognize and address these issues. The goal of continuous improvement in the quality of postsecondary education must not be impaired. Indeed, finding creative approaches to the use of facilities and technology should enhance it.

Background: Traditional Assumptions About the Use of Campus Facilities

Traditionally, higher education institutions and the state have provided the space to support the range of services deemed necessary for a college experience. Typical degree institutions are in part residential and have their roots in the days in which they acted *in loco parentis*, at least for their undergraduates. In addition to classrooms, laboratories, and faculty and administrative offices, college campuses provided a range of support facilities: gymnasiums and field houses, auditoriums and theaters, student services spaces, and museums and galleries, as well as space for recreational and leisure activities. In addition, traditional funding formulae and institutional planning place considerable emphasis on a well-stocked library whose resources students and faculty could easily access. As enrollment grew, institutions planned for corresponding additions to each type of space.[24]

In the case of the more recent community colleges, the same type of pattern has prevailed with two major exceptions: 1) the absence, or reduced amount, of some of the student support spaces, and, 2) the growth in campus facilities being driven by the daytime, on-campus enrollment. In most cases, no added space is provided for students engaged in evening courses or those taking courses off-campus. Although there is not universal agreement that this pattern is appropriate, it is consistent with the community college mission of providing service at convenient times, and at locations throughout the greater community it serves.

The Evolution of Capacity Assumptions and Emergence of E-learning

Recent developments in higher education have raised significant questions as to the advisability and necessity of continuing to increase total campus space in approximate direct proportion to enrollment growth. Around the country and in the State of Washington, new construction initiatives have not provided a full range of space types for the students these campuses serve. In Washington, the state has provided additional enrollment capacity through creation of university branch campuses, establishment of regional centers, and through consortia of colleges and universities. The facilities associated with these efforts are substantially smaller than the complete campus approach of earlier years.

In recent years, through the rapid development of telecommunications technology, the phenomenon of learning and instructional delivery through electronic media — "e-learning" — has begun to take hold in the public and private sectors. This emerging vehicle for service expansion and quality improvement involves the smallest commitment of facilities — but a larger investment in equipment — of any of the recent approaches to meeting enrollment goals.

By way of comparison, a "typical" residential institution offering programs though the masters degree level will have approximately 100 assignable square feet (asf) per FTE student for education and general purposes. Newly constructed non-residential branch campuses have approximately 80 asf per student; even lesser amounts are typical for instructional centers, which usually contain minimal support facilities. In the recently developed master plan for California

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[24] It should be kept in mind that facilities growth also might be associated with other factors, such as space in which to conduct research, or special programs such as hospitals and clinics to support the health sciences, etc.

State University at Monterey Bay, application of space guidelines for on-campus students resulted in 93 asf per FTE student to accommodate an enrollment of 5,231 FTE students. At the same time, the on-campus space needed to support 4,200 non-traditional FTE, primarily distance learners, is 20 asf per FTE, almost one-fifth the amount needed to support traditional enrollment.[25]

As this state responds to enrollment demand, new approaches to accommodate that expansion will have to be part of the solution. The result of assuming that the only way to expand is though enlarging all aspects of the campus would require an enormous investment in capital costs. And it would create significant ongoing costs to operate and maintain the space.

The following table provides an approximation of the cost differentials of serving an added 10,000 FTE students at various ratios of square feet per student. The ongoing cost to operate and maintain the added facilities is estimated at approximately $5 per square foot.[26] The table makes it clear that it is incumbent on planners and decision makers to carefully examine how to respond to plans for future growth in service.

TABLE 1
EFFECTS OF ALTHERNATIVE DEVELOPMENT APPROACHES

Service Approach	ASF per FTE	GSF per FTE	Added GSF for 10,000 FTE	Construction Cost At $225 per GSF*	Annual Maint Cost At $5 per GSF
Main Campus	100	180	1,800,000	$405,000,000	$9,000,000
Branch Campus	80	123	1,230,000	$276,750,000	$6,150,000
Regional Center	50	77	770,000	$173,250,000	$3,850,000
Distance Learning	20	30	300,000	$90,000,000	$1,500,000

Distance Learning at $300 per GSF Due to Added Equipment

Policy-makers Direct Greater Scrutiny Toward the Availability and Use of Existing Capacity

Faced with significant demand for postsecondary education in a climate of restricted budgetary resources, Washington State policy-makers have asked for more detailed information about the about the capacity of the existing public institutions of higher education and how that space is being used.

➢ **Higher Education Facilities Inventory and Utilization Information System project.** In 1992 the HECB sought and obtained funds to design a higher education facilities inventory and utilization information reporting system. The Legislature funded this system in 1997. It will provide annual information about the utilization levels of existing higher education facilities. The first regular reports from the system are to be available in 1999.

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[25] CSUMB Master Plan, Public Review Draft, October 30,1997, pages A-10 and A-11.
[26] Estimate derived from The Whitestone Building Maintenance and Repair Cost Reference, 1998 for maintenance and American School and University magazine for operations costs.

➢ **Monitoring of Higher Education Access projects.** Concurrent with the capacity and utilization project, the Legislature provided funds in 1997 for the HECB to develop baseline capacity information relative to all existing instructional space and the added capacity to be achieved from all capital projects funded through the 1997-1999 biennium.

➢ **2020 Commission on the Future of Higher Education.** Most recently, Governor Locke's 2020 Commission on Higher Education also identified the issues of capacity and utilization as important considerations in addressing this state's future enrollment demand. The Commission strongly recommended that the public sector institutions, both four- and two-year, examine opportunities to serve more students in existing facilities.

The interest of policy-makers and higher education planners in increasing enrollment capacity is also tied to the initiatives and expectations of "e-learning." The role of technology in reducing "seat-time," and thus increasing the potential capacity to serve more students in existing space, is an important consideration in preparing the year 2000 Master Plan for Higher Education.

As the Board examines the issue of capacity and utilization it seems that two questions are at the forefront:

1. Can institutional operating practices be modified, and current student behavior recognized, to increase the level of utilization and enrollment capacity within the practical limits of institutional growth capacity?

2. How can "non-seat-time" instruction contribute to increasing the capacity of existing facilities?

The following sections of this paper review the methodological background for estimating enrollment capacity and provide estimates of existing capacity using current and alternative utilization assumptions. The paper also discusses the important distinction between calculated or "formula-driven" estimates of capacity, and the real limits of "institutional growth capacity." In addition, the paper examines alternatives to increase the utilization of space while increasing the quality of the educational experience.

CALCULATING ENROLLMENT CAPACITY: DEFINITIONS AND METHODS

Definition of Enrollment Capacity

Enrollment Capacity is the number of full-time equivalent students that an institution can accommodate in its existing facilities, those currently funded for design or construction, or those being considered for funding by the 1999 Legislature — *given* certain standards about space need and use. Although there are a number of space types that can, in one way or another, be related to student enrollment, this discussion focuses on capacity associated with three types of spaces: *classrooms, class laboratories*, and *faculty offices*. These are the core components of

space that are on the margin in a developed campus and may be virtually the only types of space in a learning center.

As discussed below, enrollment capacity is determined through the application of space allocation and utilization standards to an institution's inventory of physical spaces. These calculations generate quantitative estimates of student capacity, given the assumptions or goals that underlie the standards. Since an institution's actual utilization and space allocation practices may differ from these underlying assumptions, an institution's perceived capacity may differ considerably from the estimated capacity derived from the formula calculation.

An understanding of an institution's student enrollment capacity is very important. From a statewide perspective, information about the enrollment capacity of existing facilities gives planners and policy-makers important tools in planning for increased student enrollments. With this information, policy-makers can decide which institution(s) can most easily serve new enrollments, in order to more efficiently allocate capital expenditures. Related policies can be adopted to encourage enrollment flow to institutions with excess capacity. Finally, capacity information is essential in evaluating institutional proposals for new facilities.

At an institutional level, capacity information related to utilization levels provides university and college officials with a basis to determine how well space is being used and managed, as well as providing a framework for determining the scope of future campus buildings for both new construction and remodeling. Substantial differences in classroom capacity and laboratory capacity may indicate, for example, that the curriculum has changed significantly and that the distribution of instructional space is out of balance.

Measurement of Capacity

The development of formal standards for planning and measuring institutional capacity can be traced to the late 1940s and 1950s. With the initiation of the GI Bill, many areas of the country were experiencing and forecasting massive growth in higher education enrollment. This growth led some states to recognize that the potential capital costs of meeting increased demand required a systematic basis both to plan new space, and to ensure that existing facilities were being fully utilized.

The emergence of space and utilization standards from states such as California[27] was accompanied by efforts to develop an overall, unifying framework and methodology for the application of the standards. The work of Bareither and Schillinger, University Space Planning (1968)[28] and others, as well as the development of a national taxonomy for classifying types of university buildings and space,[29] led to generally recognized and accepted methods for determining space needs and, by inference, student enrollment capacity.

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[27] See: The Strayer Committee Report, *A Report on a Survey of the Needs of California in Higher Education*. Sacramento, 1948 and, California State Department of Education, *A Restudy of the Needs of California in Higher Education*. Sacramento, 1955.

[28] Bareither, H.D. and Schillinger, J.L. *University Space Planning*. University of Illinois Press, Chicago, 1968.

[29] See: U.S. Department of Health, Education and Welfare, *Higher Education Facilities Inventory and Classification Manual*. Washington DC, 1974, and National Center for Education Statistics, *Postsecondary Education Inventory and Classification Manual*. Washington DC, 1992.

Methods for determining space needs involve the application of two types of planning standards:

- *Space Allocation Standards* establish the amount of space (assignable square feet) that students, faculty, and staff need in terms of particular space types. For example, a space allocation standard for classroom space may allocate 16 assignable square feet per student workstation. Thus, given this standard, and information about the total amount of classroom space on a campus, one could determine the maximum number of students that could be accommodated in classroom space at any one time. However, since classrooms, as well as several other types of space on a campus, are scheduled for multiple uses each day, information about the amount of time space is used is also needed to determine student enrollment capacity.

- *Utilization Standards* establish guidelines for the number of *hours* that space will be scheduled for use in a week, as well as the assumed occupancy rate or "fullness" of a space. Other formulae relate the amount of space needed by students to: 1) the amount of time the students will use the space, and, 2) the amount of time the space will be available for use (scheduled). Those calculations are then used to determine estimated capacity. This estimate can be approached from two different perspectives: how much classroom space is needed to support a defined level of enrollment, or how much enrollment can be accommodated with a given amount of space.

The development of these methods and formulae offered many institutions and states a sound basis to plan for the "Baby Boom" impact on higher education facility requirements. A national survey conducted for the State of California by MGT of America in 1988 found that 25 states used space standards or guidelines in capital budgeting for higher education. A survey update in 1996 indicated that the number of states using standards had remained essentially constant.[30]

The most common space types to which space and utilization standards are applied are classrooms, scheduled class laboratories, and faculty offices. These can be termed the "core" space types necessary for student instruction. Several states have standards only in these areas, while others have space standards for most, if not all, space types.

An issue in calculating student enrollment capacity is the extent to which supporting infrastructure or space in categories outside the "core" must increase to accommodate enrollment growth. This is because "calculated capacity" is not necessarily the same as "institutional capacity" as determined by the college or university itself. There are three principal reasons for this dichotomy:

1) *Regulatory Constraints:* Restrictions on growth imposed by an outside governmental entity, e.g., a city or county through zoning or master planning.

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[30] Survey of Space and Utilization Standards and Guidelines in the Fifty States, report to the California Postsecondary Education Commission by MGT of America, Inc., 1989 and Space Standards for Selected States' Higher Education Systems, MGT of America, Inc., 1996.

2) *Geophysical Constraints:* Limitations due to the unique geography or physical characteristics of a site, e.g., hills, canyons, water restrictions, etc.

3) *Cultural Constraints:* Concerns related to role and mission, student life, the variety of other facilities deemed to be needed, etc. This can either be expressed as a limit to growth or as a precondition to growth.

CAPACITY ESTIMATES

Current Utilization Standards

Classrooms:

Washington is one of the states in which the higher education systems have adopted space standards or guidelines. In the early 1970s, the community college system adopted a "Capacity Analysis Model," (CAM) that incorporated space allocation and utilization assumptions. Later in the decade (1976), the baccalaureate institutions developed the Facilities Evaluation and Planning Guide (FEPG). The Inter-institutional Committee of Space Officers of the public four-year institutions updated the guidelines contained in the FEPG in 1994. As stated in the FEPG, the guidelines are

> *"…intended for use by state-level policy and capital outlay planners…to allow consistent and objective evaluation of space use and space planning. The FEPG can serve as both a management tool for allocating existing space and as a guide in determining future physical facility requirements."*

In 1996-97, the HECB conducted a study of the enrollment capacity of the state's public four-year institutions. The Board used the standards contained in the FEPG as a starting point in estimating the enrollment capacity of the main campuses of the four-year public institutions. At that time, the FEPG standard of net classroom station hours per week was 18 hours. That is, 60 percent of stations filled in classrooms that were scheduled an average of 30 hours per week. In that study, the Board concluded that the FEPG standard of net classroom station hours per week could be increased by two hours to 20 hours per week.[31]

This criterion was subsequently used in the enrollment capacity calculations in the "Monitoring of Higher Education Access Projects" study conducted by the Capital Impact Consortium under sponsorship of the HECB. In the case of the community colleges, agreement was reached that the standard for smaller colleges (under 2,000 FTE) would be 20 hours per week while the larger colleges would have a goal of 23.625 hours as described in the CAM.

The 20-hour net station use standard can be described as two-thirds of the student stations filled in classrooms scheduled 30 hours per week. Another way to think about this standard is that 60 percent of stations are occupied when classrooms are used 33.3 hours per week. A third way to

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[31] The Enrollment Capacity of the Main Campuses of Washington's Public Four Year Institutions of Higher Education, Higher Education Coordinating Board, June, 1997, page 5.

construct the 20-hour standard is through any reasonable combination of scheduled room hours and occupancy that produces 20 hours of net station use.

How does this net use target compare to that required by other states? The 1996 survey, which was conducted by MGT of America, Inc. for the Washington Office of Financial Management, indicated that the average classroom utilization assumption of the states reporting data for four-year institutions was 20.8 hours per week. Forty percent of the states reported an expectation of 18 hours while the rest required 20 hours per week or more; California's expectation of 30 hours per week was the highest[32], followed by Texas at slightly over 25 hours per week. The Texas Higher Education Coordinating Board has used this standard since 1992.[33]

Scheduled Science Class Laboratories:

Class laboratories typically are scheduled fewer hours per week but have a higher proportion of stations (seats) filled. The guidelines established by the FEPG assume 20 hours per week scheduled room use with 80 percent of the stations filled. This produces a net station utilization of 16 hours per week. This criterion is somewhat lower than the average reported in the 1996 MGT survey cited above. At that time, the average net station use reported was 16.5 hours per week. Half the states reported standards of 16 hours or below, some states had higher expectations at the lower-division level than at the upper division. The other half ranged from 16.5 to as high as 20 hours per week (Texas and California). Reasons for lower scheduling capabilities for class laboratories include the following:

- The often discipline-specific nature of the space where at least one lab of a specific type is required if the course is to be taught, meaning that some labs may be used only a few hours per week.

- The common practice that scheduling of the space is usually controlled by the department or school, so that space is not considered open to use by other departments.

- A need to have some lab hours set aside for non-scheduled time, so that students may continue experiments.

- A practice of allowing students to begin experiments or procedures and have them remain in place for several days without disturbance.

The extent of net utilization of class laboratories is also an issue in calculating student enrollment capacity since a proportion of much course work is associated with laboratory instruction.

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[32] It should be noted that the 30 hours reflects the California Coordinating Board's recommendation to reduce the previous standard of 35 hours per week. See Storey, William L., A Capacity for Learning, California Postsecondary Education Commission, Sacramento CA, 1990.

[33] Space Projection Model for Higher Education Institutions in Texas, Texas Higher Education Coordinating Board, Austin, October, 1992.

Tables 2-A through 2-C (pages 11-13) summarize the calculated student FTE capacity per current utilization standards to estimate classroom, class lab, and faculty office[34] capacity of the four-year institutions and the Community and Technical College system. These calculations are based upon existing classroom and class lab stations,[35] and those additional stations that will be available from capital projects in design or under construction, and those being considered for funding by the 1999 Legislature.[36]

As shown in Table 2-A, the current utilization standards for existing classroom stations yield a capacity estimate for classrooms (96,707 student FTE) at the four-year institutions which exceeds the fall 1998 enrollment level (85,570 student FTE). Most of the total difference between existing capacity and Fall 1998 enrollment at the four-year institutions exists at Eastern Washington University (4,461), Central Washington University (2,056) and the branch campuses at (5,662). As shown in Appendix A, the branch campus "excess" capacity exists primarily at WSU Tri-Cities, WSU Spokane (Riverpoint), and EWU Spokane.

Existing classroom capacity for the community and technical colleges is below the Fall 1998 enrollment level. Specifically, when calculated at current standards, there is classroom capacity for about 88,000 student FTE, while the Fall 1998 enrollment was about 114,000 student FTE.

Similar to classroom capacity, the four-year institutions' class lab capacity (92,389) is greater than Fall 1999 enrollment. Again, most of this "excess" exists at main campuses and branch campuses located in Eastern Washington.

When planned and proposed projects are included in this analysis, the FTE capacity for classrooms and class labs increases to 118,356 and 114,333, respectively, at the four year institutions and to 96,905 and 136,419 at the community and technical colleges.

Table 2-C describes the status of faculty office space relative to student enrollment capacity. These data use existing faculty/student ratios to arrive at an expression of faculty office space per student FTE.

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[34] Faculty office capacity is expressed in student FTE per the application of current student FTE/faculty FTE ratios.
[35] See Appendix A for the specific calculations and community and technical college detail.
[36] See Appendix A for project specific detail.

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TABLE 2 - A
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASSROOMS

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SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**84,642**	**2,580**	**8,562**	**761**	**96,545**	**79,167**
Branch	**12,065**	**1,480**	**7,291**	**975**	**21,811**	**6,403**
All Sites	**96,707**	**4,060**	**15,853**	**1,736**	**118,356**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	34,345	1,843	1,141	761	38,090	33,122
Branch	1,852	1,480	2,323	0	5,655	1,830
WASHINGTON STATE UNIVERSITY						
Main	18,314	188	3,586	0	22,088	17,898
Branch	7,260	0	2,680	912	10,852	2,004
WESTERN WASHINGTON UNIVERSITY						
Main	9,039	0	1,694	0	10,733	11,062
Branch	0	0	0	63	63	0
THE EVERGREEN STATE COLLEGE						
Main	3,427	0	2,059	0	5,486	4,085
Branch	492	0	0	0	492	158
CENTRAL WASHINGTON UNIVERSITY						
Main	8,973	0	0	0	8,973	6,917
Branch	1,141	0	2,288	0	3,429	978
EASTERN WASHINGTON UNIVERSITY						
Main	10,544	549	82	0	11,175	6,083
Branch	1,320	0	0	0	1,320	1,433
COMMUNITY AND TECHNICAL COLLEGES						
Main	**82,079**	**5,778**	**262**	**2,399**	**90,518**	**113,730**
Branch	**5,806**	**154**	**427**	**0**	**6,387**	**na**
All Sites	**87,885**	**5,932**	**689**	**2,399**	**96,905**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**166,721**	**8,358**	**8,824**	**3,160**	**187,063**	**192,897**
Branch	**17,871**	**1,634**	**7,718**	**975**	**28,198**	**6,403**
All Sites	**184,592**	**9,992**	**16,542**	**4,135**	**215,261**	**199,300**

TABLE 3 - B
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
CLASS LABS

SECTOR INSTITUTION	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL						
Main	**90,146**	**699**	**4,952**	**1,789**	**97,586**	**79,167**
Branch	**2,243**	**2,470**	**11,890**	**144**	**16,747**	**6,403**
All Sites	**92,389**	**3,169**	**16,842**	**1,933**	**114,333**	**85,570**
UNIVERSITY OF WASHINGTON						
Main	35,683	202	468	1,384	37,737	33,122
Branch	490	2,470	3,514	0	6,474	1,830
WASHINGTON STATE UNIVERSITY						
Main	16,872	76	1,877	355	19,180	17,898
Branch	1,716	0	4,488	0	6,204	2,004
WESTERN WASHINGTON UNIVERSITY						
Main	9,780	0	1,395	0	11,175	11,062
Branch	0	0	0	144	144	0
THE EVERGREEN STATE COLLEGE						
Main	3,230	0	875	50	4,155	4,085
Branch	37	0	0	0	37	158
CENTRAL WASHINGTON UNIVERSITY						
Main	14,745	0	0	0	14,745	6,917
Branch	0	0	3,888	0	3,888	978
EASTERN WASHINGTON UNIVERSITY						
Main	9,836	421	337	0	10,594	6,083
Branch	0	0	0	0	0	1,433
COMMUNITY AND TECHNICAL COLLEGES						
Main	**75,263**	**22,881**	**28,373**	**6,103**	**132,620**	**113,730**
Branch	**3,799**	**na**	**na**	**na**	**3,799**	**na**
All Sites	**79,062**	**22,881**	**28,373**	**6,103**	**136,419**	**na**
TOTAL: ALL PUBLIC INSTITUTIONS						
Main	**165,409**	**23,580**	**33,325**	**7,892**	**230,206**	**192,897**
Branch	**6,042**	**2,470**	**11,890**	**144**	**20,546**	**6,403**
All Sites	**171,451**	**26,050**	**45,215**	**8,036**	**250,752**	**199,300**

TABLE 2 - C
STUDENT FTE CAPACITY per CURRENT STANDARDS by TYPE OF CAPACITY
INSTRUCTIONAL OFFICES--FOUR YEAR MAIN CAMPUSES

	EXISTING CAPACITY	UNDER CNSTRCTN.	IN DESIGN PHASE	1999-2001 PROPOSED	TOTAL	FALL 1998 ENROLLMENT
PUBLIC FOUR-YEAR TOTAL	**89,448**	**1,764**	**4,146**	**2,307**	**97,665**	**79,167**
UNIVERSITY OF WASHINGTON	34,413	1,699	887	903	37,902	33,122
WASHINGTON STATE UNIVERSITY	15,515	65	487	1,097	17,164	17,898
WESTERN WASHINGTON UNIVERSITY	11,922	0	1,188	307	13,417	11,062
THE EVERGREEN STATE COLLEGE	4,539	0	1,544	0	6,083	4,085
CENTRAL WASHINGTON UNIVERSITY	13,422	0	0	0	13,422	6,917
EASTERN WASHINGTON UNIVERSITY	9,637	0	40	0	9,677	6,083

<u>**Increased Use of Classrooms and Class Labs: Alternative Capacity Calculations**</u>

Studies have indicated that some colleges and universities have a setting and culture that lend themselves to operation both day and evening: over a 14-hour period from 8 a.m. to 10 p.m. Others normally operate on a 9-hour day, from 8 a.m. to 5 p.m. Schedule variations occur with some institutions beginning at 7 or 7:30 a.m., but the 9- or 14-hour patterns are the most common. Fridays are usually the exception in that most scheduled instruction ceases at noon or 1 p.m. Given these patterns, *it is possible to achieve 22 or 24 hours per week net station occupancy in both settings.*

For example, the net station use would be 24 hours <u>in a four-day week</u> under the following 14-hour day model:

- 90 percent of the rooms are scheduled between 8 a.m. and 2 p.m.
- 50 percent between 2 and 5 p.m.
- 33 percent from 5 to 10 p.m., and,
- an average of 70 percent of the seats are filled. A 67-percent seat-occupancy average would result in 23 hours per week while a 65 percent occupancy level would exceed 22 hours. Reducing scheduling efficiency and occupancy in the four days and operating only Friday morning would still allow achievement of the 22- to 24-hour level.

Turning to the day-only model any of the following patterns of use would exceed 24 hours of net use over five days:

- 95 percent of classrooms scheduled from 8 a.m. to 2 p.m.,
- 75 percent from 2 to 3 p.m., 50 percent from 3 to 4 p.m., or
- 25 percent from 4 to 5 p.m., with an average of 67 percent of the seats filled.

Reducing Friday afternoon use still would achieve a utilization level of 22 hours per week. Therefore, while there are some challenges involved in increasing utilization of classrooms, *achieving 22 or 24 net hours per week is an achievable goal.*

It might be asked, why can't these rooms be used all hours of the day and why can't all the seats be filled? In most cases, class sizes differ by course type and level, and colleges and universities attempt to have a range of classroom sizes to accommodate these variations. This means that classes must be assigned to available rooms that can hold **at least** the number of students in the class, often resulting in vacant seats. The efficiency of room scheduling has proportionately more room for improvement than other factors, since the major limiting factors are student preference, faculty preference, and control of scheduling. The first two represent issues that must be dealt with on each campus, while control of scheduling is an element that can be addressed as a matter of policy.

Studies indicate that when classrooms are scheduled on a campus-wide basis, utilization is twice as efficient, as when academic departments schedule them. Use of algorithmic computer scheduling systems can further increase scheduling efficiency. This opportunity for efficiency from centralized scheduling suggests that institutions should carefully consider this approach and require clear substantiation of need by any department seeking authority to schedule classrooms at the department level.

Increased utilization is somewhat more difficult to achieve for class labs due to the discipline-specific nature of many labs. One way of improving overall laboratory utilization would be to identify opportunities to use more intensively general-purpose laboratories whenever possible. This could free a special purpose laboratory for more intensive use. Restructuring courses with low laboratory use is another option that involves qualitative considerations. While examination of the potential may be encouraged, this restructuring cannot be recommended solely on grounds of improved space utilization.

Increased hourly room use, as expected by Texas and California, and to a lesser extent, New York, offers the greatest potential. Over a 56-hour, four-day week, or a 45-hour five-day week, achieving 23 or 25 scheduled hours seems feasible. It does require well coordinated central scheduling and a willingness to engage in instruction at times now deemed less convenient to students and faculty. If students and faculty can be engaged in the process of expanding the effective use of instructional facilities and centralized computerized scheduling can be implemented, significant gains in utilization are possible.

Improving the Quality of the Educational Experience

The first priority of the HECB, institutions, policy makers, and the public should be that changes to space utilization enhance opportunity and quality in public higher education.

The goal of more fully utilizing existing public facilities is not synonymous with a reduction of student-faculty contact hours. Students and faculty are currently and will increasingly taking advantage of telecommunications technology to enhance the immediacy, flexibility, and quality of learning. As the facility of students and faculty with "e-learning" technology increases, less traditional "seat time" may be required. However, contact among faculty and students need not necessarily decline, though the nature of the contact may *change*, becoming more direct and more immediate.

The use of e-learning technology is already occurring at many universities and colleges across the country, and to ignore it would be neither reasonable nor responsible. Already many opportunities exist to transmit at least *a portion* of the basic information in many courses in electronic or recorded format rather than lecture format. This frees faculty to have *more face-to-face interaction* with smaller groups of students, which, again, represents a great opportunity to increase quality.

The best use of faculty time is in a setting that allows a give-and-take exchange of information. As the students and faculty explore new ways to communicate and to learn, the positive benefits to both faculty and students should produce significant quality improvements.
Finally, any new utilization standards would be phased in over a 20-year period. Current FEPG standards simply don't allow institutions to account for changes that already are taking place in the way that students and faculty are using technology to enhance and excite traditional ways of learning and teaching. At the current rate of expansion of e-learning and its growing role on and off traditional college campuses, incremental change over 20 years describes evolution, not revolution in postsecondary teaching and learning.

Better use of existing facilities will make maximum use of existing and new facilities, allowing the state to direct future capital investments toward quality improvements, rather than more

"bricks and mortar."   The public has a huge investment in existing, state-of-the-art higher education facilities. Reducing seat time and using the public's investment better will reduce costs of building new classroom and laboratory buildings. The cost of new campuses and new buildings is high; there are many other sectors competing for these dollars. It simply makes sense to strive for optimum use of existing space before asking the state to use more of its limited resources to add to the state's substantial higher education capital inventory.

Institutional Growth Capacity

The formula-based approach to calculating campus capacity developed in this study applies to the common space types that exist at all academic campuses, regardless of the particular programs that are offered. A formula-based approach to estimating enrollment capacity for "core" space types (classrooms, scheduled class laboratories, and faculty offices) provides a useful basis for an assessment of facility needs into the future. There are, however, other considerations that also must be recognized. Program-specific spaces must be provided on individual campuses to meet specific program needs. These investment decisions cannot be projected on a system-wide basis, but must be individually considered in light of specific campus needs.

An additional consideration that must be taken into account are environmental/cultural constraints that can impose limits to enrollment that are entirely separate from the capacity based on the utilization and availability of core spaces. These limitations can result in an "institutional capacity" that is less than the "calculated capacity." Institutional capacity must be determined on an individual campus basis by the college or university itself. There are three principal factors that define institutional capacity:

1. **Regulatory Constraints**: Restrictions on growth imposed by an outside governmental entity, e.g., a city or county through zoning or master planning

2. **Geophysical Constraints**:   Limitations due to the unique geography or physical characteristics of a site, e.g., hills, canyons, water restrictions, etc.

3. **Cultural Constraints**: Concerns related to the role and mission, student life, the variety of other facilities deemed to be needed, etc. This can either be expressed as a limit to growth or as a precondition to growth.

The institutions have been requested to identify institutional capacity as it relates to the calculated capacity amounts produced by the formulas regarding space utilization. These limitations on institutional growth will be reported in the second capacity paper to be provided the Board in May 1999.

Teacher Education Panel

April 1999

EXECUTIVE SUMMARY

The Board has requested the opportunity to learn more about teacher preparation programs and teacher preparation program-approval standards in light of K-12 reform. The Board has invited a distinguished panel for a discussion on teacher education, including the following topics:

- What teacher preparation programs are doing to reflect the needs of K-12 reform;

- What other steps can teacher preparation programs take to better reflect the needs of K-12 reform;

- How colleges of education are reshaping their M Ed programs to reflect the needs of K-12 reform; and

- How the State Board of Education is reshaping teacher preparation program approval and teacher certification standards to reflect the needs of K-12 reform.

The members of the panel are:

- Dr. Michael Vavrus, Director, Master in Teaching Program
  The Evergreen State College

- Dr. Linda Gohlke, Curriculum and Assessment Specialist
  Commission on Student Learning

- Mr. Larry Davis, Executive Director
  State Board of Education

- Dr. Andy Griffin, Assistant Superintendent, OSPI
  Higher Education, Community Outreach, and Staff Development

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The Evergreen State College Proposal to Establish a Bachelor of Arts in Community-Determined Native American Studies at Reservations Statewide

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April 1999

EXECUTIVE SUMMARY

The Evergreen State College proposes to offer **a Bachelor of Arts in Community-Determined Native American Studies**, on a statewide basis, as institutional resources are available and demand fluctuates. The Higher Education Coordinating Board has approved the program at four reservations sites – Quinault, Makah, Port Gamble S'Klallam, and Skokomish – and has granted approval to pilot the program at the Muckleshoot reservation.

For the near term, Evergreen would continue serving these five Native American reservations. Over the longer term, Evergreen hopes to play a leadership role in working with other Washington colleges and universities to offer a broader range and coherent set of programs in reservation communities. The other public four-year institutions support Evergreen's proposal and applaud their efforts to serve this important population.

The program is designed to prepare tribal members for a variety of careers and leadership positions in their communities. It emphasizes understanding the historical and contemporary context of Native American issues.

The program exemplifies Evergreen's diversity commitment. The assessment program is well designed to evaluate program effectiveness and student performance.

The expanded BA in Community-Determined Native American Studies would be funded by a combination of **internal reallocation** and **joint funding with Northwest Indian College**. It would be supported by a cadre of well-qualified faculty and comprehensive support services. The cost would be about **$2,800** per FTE student.

RECOMMENDATION

The Evergreen State College proposal to establish a Bachelor of Arts in Community-Determined Native American Studies on a statewide basis is recommended for approval, effective summer term 1999.

**The Evergreen State College Proposal to Establish a
Bachelor of Arts in Community-Determined Native American
Studies at Reservations Statewide**

INTRODUCTION

The Evergreen State College (TESC) Bachelor of Arts in Community-Determined Native American Studies is a well-established program on four reservations in Washington. In addition to these off-campus offerings, TESC offers an on-campus Bachelor of Arts in Native American Studies. Recently, TESC has received requests from numerous other tribes to offer its program on their reservations.

Enrollments in the reservation-based programs vary considerably from year to year since the reservations are located in small communities. As such, it would be more efficient and cost effective for TESC to rotate the program among the reservation sites, on a statewide basis, as institutional resources are available and demand fluctuates.

PROGRAM NEED

Definition

The interdisciplinary program provides students with analytical, research, communication, and technology skills. It draws broadly from the social sciences and humanities and includes a firm grounding in historical and contemporary Native American issues. The program prepares individuals to hold leadership positions on the reservations and to pursue careers in public administration, law, education, human services, and cultural studies.

Relationship to Role and Mission

Evergreen's role and mission emphasizes providing educational services for under-represented populations. TESC promotes culturally relevant education for Native American students and cultural literacy in the wider population.

Relationship to Program Plan

This statewide approval request was not included as part of TESC's previous program plan. Since that plan was submitted to HECB for consideration, numerous reservations have requested the BA in Community-Determined Native American Studies for their communities.

Relationship to Other Institutions

Northwest Indian College (NWIC) offers limited lower-division education at some of the reservations. A substantial number of students enrolled at NWIC ultimately transfer to the TESC program. Washington State University offers some instruction on the Colville and Lummi reservations. Regis College offers a distance education bachelor's degree in business on the Muckleshoot reservation. However, interest in this program has been minimal.

State and Tribal Benefits

The state and the 28 Native American tribes in Washington, cited on the map in Appendix A, should benefit in several ways from the expansion of the program. First, Native Americans constitute one of the most underserved populations in terms of access to higher education. The higher education opportunities for Native Americans living in isolated areas across the state are virtually non-existent. The Community-Determined Native American Studies program will help address this access need. Second, many individuals who have chosen to remain on the reservations will have greater opportunities to gain a solid understanding of the political, social, and economic opportunities and restrictions of the Indian Nation. Third, the program will assist tribes in creating a core of college educated people to fill the roles of teachers and leaders for their communities. Fourth, many of the state's tribal governments are pursuing self-governance, and graduates of the proposed program will contribute to this goal.

Student Interest and Employer Appeal

Enrollment levels in the existing programs at the Quinault, Makah, Port Gamble S'Klallam, and Skokomish reservations indicate substantial student interest. Currently, there are over 50 students enrolled at all sites combined. In addition, TESC began a pilot program in fall 1998 at the Muckleshoot reservation with 14 students.

Native Americans are interested in the program because it is centered in their communities. Many of these individuals are time-and-placebound because of family and work obligations and preferences. Offering the program on the reservation helps the students maintain their community roots and allegiances while they pursue their higher education goals.

A review of several studies indicates that employers view liberal arts graduates favorably. Research has shown that liberal arts prepares graduates effectively to: 1) adapt to numerous and changing environments; 2) think conceptually and critically; 3) see the broader picture and integrate a variety of perspectives; 4) set goals and work both independently and in teams; and, 5) assume leadership roles.

As with other liberal arts programs, the Community-Determined Native American Studies program will prepare students to engage in a variety of professional fields. For example, graduates of existing reservation-based programs are employed as counselors, program directors, researchers, and teachers, both on and off the reservations.

PROGRAM DESCRIPTION

Goals

As articulated in the proposal, the program seeks to:

1. Provide students with a rigorous interdisciplinary liberal arts degree with specializations in various areas of Native American Studies;
2. Provide students with broad-based skills in analysis, critical thinking, research, oral and written communication, the use of technology, and working in teams;
3. Provide students with an opportunity to obtain a firm grounding in historical and contemporary Native American issues;
4. Prepare students to contribute to their communities as they pursue the important goal of self-governance;
5. Prepare students to contribute to the retrieval and preservation of local cultural knowledge; and
6. Empower students with the skills necessary to take a leadership role, equipped with the knowledge, skills, and values needed for the 21st century in their communities and Washington state.

Curriculum

All of the reservation sites utilize a common curriculum, which includes studies in areas such as political science, literature, art, writing, anthropology, Indian history, environmental issues, community development, and management. The yearly curriculum is based on students' responses to the question, "What does an educated Native American need to know and what are the emergent issues and needs in this community?" Together, students identify what they want to learn about, and, within that context, faculty develop an interdisciplinary program, including opportunities for community service, job-related projects, research, internships, and individualized studies.

Appendix B presents an inventory of course equivalencies associated with the program of study.

Delivery

Initially, the program will be delivered at selected Native American reservations and/or a magnet location by TESC. Eventually Evergreen hopes to play a leadership role in working with other Washington public colleges and universities to offer a broader range and a coherent set of programs in these reservation communities.

Appendix C includes a letter of support, signed by the institutional provosts. The letter endorses Evergreen's proposal to expand its Community-Determined Native American Studies program, as appropriate, on a statewide basis.

Students

Size of Program.   Evergreen anticipates that it will offer the program at its current level of staffing at five reservation sites (Makah, Port Gamble S'Klallam, Quinault, Skokomish, Muckleshoot) through the year 2000, and serve a total of 55 FTE. Additional staffing and sites are being discussed as part of Evergreen's growth plan to the year 2010.

Time-to-Degree.   Based on the expectation that students will earn 12 credits per quarter, it will take five years to complete the bachelor's program. About 30% of the current students have 30-100 credits transferred, so they will graduate in a shorter time.

Diversity

This program exemplifies Evergreen's diversity commitment. It serves an on-reservation Native American student body. The program also promotes greater participation of Native Americans in higher education at TESC's main campus and in multiple Native American communities. Each week Evergreen faculty members travel to each reservation site. Several weekends each quarter, students from all of the reservation sites come together either at TESC's main campus or at one of the reservation sites for weekend classes.

In addition, Evergreen's curriculum stresses diversity in content and pedagogical approach. Approximately 22% of TESC's faculty are persons of color. In 1997-98, approximately 12% of the college's students were enrolled in the reservation-based program.

Resources

The program is currently supported by two full-time faculty members who are Native American and experts in Native American Studies and community development. One of these faculty members serves as the program's half-time administrator. A few classes are also taught by Olympia-based or community-based faculty.

The tribes provide tuition and books for most students and instructional space and equipment for the program. Student services and library resources are provided by TESC's main campus. The college offers library usage workshops and assigns a librarian to assist the reservation-based students.

QUALITY OF PROGRAM

Assessment Plan

The program uses a variety of assessment methods to ensure that the student outcome goals are achieved and that the program continually improves and remains responsive to the community.

Like other Evergreen programs, this program relies on portfolio reviews and narrative evaluations for measuring student performance, rather than grades. At the end of each quarter, the faculty member holds an extensive conference with each student to review their portfolio and discuss their academic work. This is complemented by a comprehensive narrative evaluation that depicts the student's performance. At the end of each quarter, each student also writes a self-evaluation. At the end of the program, students complete a summative evaluation. This is comparable to a capstone project or examination.

The quality of the faculty and program are assessed through TESC's annual evaluation system and reappointment process. Faculty are evaluated through faculty teaching portfolios. These portfolios include self-evaluations, student evaluations, and comments from co-teachers. They are the basis for faculty reappointment at TESC and are periodically reviewed by the academic deans.

Faculty also meet regularly with Tribal Council members to discuss future directions for the Community-Determined Native American Studies program. This activity keeps the program closely connected to the community.

Finally, this program, like all others at TESC, is subject to periodic program review associated with the reaccredidation process and the HECB's existing program review procedures. This next review is scheduled for 2000.

External Reviewers

All of the public four-year institutions were invited to review and comment on the proposal. It was also submitted to ICAPP (Inter-institutional Committee on Academic Program Planning), which endorsed the proposal. After gaining approval by the HECB, the proposal will be submitted to NWCSC (Northwest Commission on Schools and Colleges).

COST OF PROGRAM

Appendix D provides an estimate cost of the proposed program in Year 1 (1998-1999), and in Year 2 (1999-2000). This assumes the program will stay at its current level during this time period. As the program expands, it will be funded through reallocation of faculty from on-going undergraduate programs and through joint funding with Northwest Indian College per the agreement with them. The cost per FTE student would be about $2,800.

STAFF ANALYSIS

The expanded Community-Determined Native American program will:
1. Provide needed higher education opportunities to Native Americans who choose to remain on the reservation;
2. Prepare tribal members to assume leadership positions in their communities;
3. Be taught from the Native American Indian perspective;
4. Be supported through reallocation and tuition reimbursement from Northwest Indian College; and
5. Have a reasonable per-FTE-student cost.

STAFF RECOMMENDATION

The Evergreen State College proposal to establish a Bachelor of Arts in Community-Determined Native American Studies on a statewide basis is recommended for approval, effective summer term 1999.

APPENDICES

Appendix A   Tribal Map
Appendix B   Program of Study Course Equivalencies
Appendix C   Provost's Letter of Support
Appendix D   Cost of Program

For a copy of the appendices, please call the HECB at (360) 753-7830.

RESOLUTION NO. 99-11

WHEREAS, The Evergreen State College is proposing to establish a Bachelor of Arts in Community-Determined Native American Studies, on statewide basis, as institutional resources are available and demand fluctuates; and

WHEREAS, The Evergreen State College has a special goal of promoting both culturally relevant education for Native American students and cultural literacy in the wider population; and

WHEREAS, Numerous Native American tribes in Washington have asked The Evergreen State College to offer its program in their communities; and

WHEREAS, The program will provide greater higher education opportunities to Native Americans and prepare tribal members to assume a variety of careers and leadership positions in their communities; and

WHEREAS, The program exemplifies diversity in higher education and its assessment plan is well suited for a program of its nature; and

WHEREAS, Resources are available to support a quality program and support services; and

WHEREAS, The costs are reasonable and reflect the wise use of state resources;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves The Evergreen State College request to establish a Bachelor of Arts in Community-Determined Native American Studies on a statewide basis, effective summer term 1999.

Adopted:

April 14, 1999

Attest:

_____
David Shaw, Secretary

_____
Larry Hanson, Member

Washington State University Proposal to Establish a Bachelor of Arts in Computer Science at Pullman, Tri-Cities, and Vancouver

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April 1999

EXECUTIVE SUMMARY

Washington State University proposes to offer a **Bachelor of Arts in Computer Science** at its Pullman, Tri-Cities, and Vancouver campuses. Graduates of the program will develop knowledge and proficiency to apply computing expertise in a variety of fields. The demand for computer science professionals is escalating rapidly. According to the Washington State Employment Security Department, computing related jobs in Washington are one of the fastest growing professions. Currently, only about 17% of the statewide demand for computer science professionals is being met by Washington's postsecondary institutions.

At WSU Pullman, program participants are expected to be drawn from currently enrolled students who are interested in a computer science program that offers more breadth and flexibility than the traditional BS in Computer Science. At WSU Tri-Cities and WSU Vancouver, program participants are expected to be drawn from local community college students who will complete a two-year degree program in computer science.. In addition, it is anticipated that employees in these three locations will participate in the program to advance in their careers.

The diversity plan for the proposed program reflects WSU's commitment to serve under-represented students, particularly women. The plan reflects the expected student learning outcomes articulated by the Computing Sciences Accreditation Board.

Three external reviewers have reviewed the program and they support it wholeheartedly, noting that the proposed program of study follows the guidelines established by relevant professional societies.

The BA in Computer Science will be funded by internal reallocation. It will be supported by a core of existing faculty and complementary adjuncts. The cost of this program should be about **$7,829 per FTE student.**

STAFF RECOMMENDATION

The Washington State University proposal to establish a Bachelor of Arts in Computer Science at the Pullman, Tri-Cities, and Vancouver campuses is recommended for approval, effective summer 1999.

Washington State University Proposal to Establish a Bachelor of Arts in Computer Science at Pullman, Tri-Cities, and Vancouver

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INTRODUCTION

The School of Engineering and Computer Science at Washington State University proposes to establish a Bachelor of Arts in Computer Science at its Pullman, Tri-Cities, and Vancouver campuses. The first goal of the program is to produce graduates who will become successfully employed in companies and organizations to apply computer applications to specific areas. According to Governor Locke in his 1999-2001 budget message and recent studies, only about 17% of the statewide demand for computer professionals is currently being met by Washington's postsecondary institutions. A secondary goal of the program is to prepare students for graduate work in computer related fields.

PROGRAM NEED

Definition

Computer science deals with the theory and practice of organizing, representing, manipulating, and presenting information in an electronic processing environment. WSU's proposed BA in Computer Science emphasizes the application of computer science and software design to a variety of disciplines including the pure sciences, business, and the liberal arts.

Relationship to Institutional Mission

WSU, as a land grant institution, emphasizes the development of programs in engineering, applied sciences, agriculture, and veterinary medicine. The discipline of computer science, which has its origins linked to electrical engineering and mathematics, has evolved over the past 50 years. Today, virtually all comprehensive universities offer one or more degrees in computer science.

Relationship to Program Plan

In April 1998, the HECB granted pre-approval for the development of a full proposal.

Relationship to Other institutions and Programs

The proposed BA in Computer Science is not offered by any other colleges or universities in Pullman, Tri-Cities, and Vancouver. It is designed to complement WSU's existing software engineering-oriented BS in Computer Science. Graduates of this program compete with the best in Washington and the nation. Many of WSU's peer institutions offer a BA in Computer Science in addition to the traditional engineering-oriented BS in Computer Science.

Student demand for WSU's existing BS in Computer Science is extremely high. But the demanding mathematics and science requirements cause some students to lengthen their baccalaureate programs or select another major. The proposed BA in Computer Science is designed to provide a more flexible pathway to a computer science degree while meeting the standards for accreditation published by the Computing Sciences Accreditation Board (CSAB).

The major elements distinguishing between a BS and BA in Computer Science are:

1. The BS requires depth; the BA offers breadth — a required minor.
2. The BS includes more computer science, math, and science courses.
3. The BS includes no free electives — most electives are limited to technical courses.
4. The BA balances electives among technical courses, a minor concentration, and free electives.
5. The BS is better suited for individuals seeking careers in software engineering while the BA is better suited for individuals seeking careers outside of an engineering organization — small start-up software companies, software support organizations, data center management, and corporate information technology organizations.

Occupational Demand

In determining need and demand for the proposal, WSU reviewed three documents prepared by the Washington State Employment Security Department.

1. Labor Market and Economic Report (LMER)
2. 1995-2000 Occupational Outlook (OO)
3. Labor Market Analysis Review — *A So So Ending to a See-Saw Year*

The LMER contains the following quotes and statistics about the growth of the computing jobs in Washington:

- *Some of the leading sectors measured in terms of job growth include personnel supply services (up 20% from a year ago), computer data processing and software (up 13%), social services (up 7%), and health care (up 3%)*

- *Computer Science, Computer Engineering, and System Analysis are the second, third, and seventh fastest growing professions in the state, with projected growth rates of 7.1%, 6.7%, and 5.1% respectively.*

- *Systems Analysts and Computer Engineers are the third and sixth highest demand occupations in terms of growth in positions with new positions numbering 1,193 and 1,103 respectively.*

The OO publication makes these same points, but from a 15 year projection:

- *Computer Services jobs are expected to grow by approximately 28,000 positions between 1995 and 2010.*
- *The employment categories "Computer Scientists," Computer Programmers," "Systems Analysts," and "Computer Engineers" grew at annual rates of 11.87%, 1.97%, 7.49%, and 10.88% in 1994, and are all classified among the fastest growing professions.*

In addition, the article, *A So So Ending to a See-Saw Year states:*

- *Business services were going ballistic last year . . . an employment growth rate of 12.5%. This sector includes computer software and data processing, which accounted for 5,000 of 13,000 new jobs.*

Finally, for the period 1994-2005, the Federal Bureau of Labor Statistics identified computer and data processing services as having the fastest job growth (69.5%) among all industries. Among specific occupations, systems analysts are expected to increase in numbers by 445,000 (92%) by 2004, and computer engineers are expected to increase by 177,000 (90%), making these occupations the third and fourth fastest growing in the United States.

Student Interest

Initially, at WSU-Pullman it is expected that currently enrolled students will be attracted to the new program. Initially, at WSU Tri-Cities and WSU Vancouver, it is expected that local community college transfer students will be attracted to the new program. In addition, it is expected that individuals employed in computer related industries in those three locations will also take advantage of the program to advance in their careers.

PROGRAM DESCRIPTION

Student Learning Outcomes

Graduates of the BA in Computer Science are expected to demonstrate:

1. An understanding of the essential concepts of computer systems, including both hardware and software aspects;
2. An understanding and appreciation of the breadth of applications (in government, industry, education, sciences and arts) in which computer systems are essential for productivity, profit, and/or efficiency;
3. An understanding of the foundations of computer science, and of at least one area of application;
4. Proficiency in using mathematical concepts and engineering tools to analyze, develop, and refine computing systems to meet stated objectives;
5. Familiarity and experience with creative engineering processes as they apply to software system design and development; and
6. Proficiency in designing and developing software applications specifically for the student's elected minor area of concentration.

Program of Study

Appendix A presents the program of study for the BA in Computer Science. It includes a mathematics and science foundation, a core of basic and advanced knowledge in computer science, and a significant, structured, and meaningful elective experience. No new courses are needed for implementation of this new degree program.

Program Size. Initially the program will serve 40 FTE students (20 FTE at WSU-Pullman, 10 FTE at WSU Tri-Cities, and 10 FTE at WSU Vancouver). At full enrollment, the program will serve 140 FTE students (80 FTE at Pullman, 30 FTE at WSU Tri-Cities, and 30 FTE at WSU Vancouver).

Time-to-Degree. The program is designed so that full-time students will be able to complete the degree requirements in four years. Students pursuing this degree program at WSU Tri-Cities and WSU Vancouver will most likely complete the first two years of the program at a local community college. They are also more likely than WSU-Pullman students to complete the last two years of the program on a part-time basis.

Diversity

WSU has an institution-wide commitment to increasing diversity amongst its personnel and student body. The School of Electrical Engineering and Computer Science is fully supportive of WSU's many diversity initiatives. The School has recently secured funding for an endowed scholarship for women in computer science. Faculty and staff at the three WSU campuses will be expected to work aggressively to recruit and retain a diverse group of majors in computer science.

Resources

No new faculty, facilities, or library resources are required to offer the program. However, $100,000 is budgeted for updating existing computer labs. WSU is encouraging students to purchase their own computers. As computer ownership becomes more universal for students, departmental support for laboratories will shift away from general purpose computing laboratories and toward specialized facilities for advanced undergraduates and courses with special needs.

The total number of faculty devoted to the BA in Computer Science at the three WSU campuses will be 19.45 FTE. They will be supported by 2.4 FTE administrative and support staff.

QUALITY OF PROGRAM

Accreditation

The proposed BA in Computer Science is modeled after the standards established by the Computing Sciences Accreditation Board. WSU will evaluate the need for accreditation of the BA in Computer Science while maintaining the accreditation of the BS in Computer Science.

Assessment

The following program assessments will be employed:

1. <u>End-of-Program-Assessment</u>: Graduating seniors will be surveyed to learn their opinions of the strengths and weaknesses of the faculty and program and suggestions for change and improvement.

2. <u>Graduate Tracking</u>: Program graduates will be tracked. Their employers and supervisors will be surveyed to determine the preparedness and overall ability of WSU graduates.

3. <u>Advisory Council</u>: An advisory council will be formed of representatives from industry in the region that hire computer science personnel. This group will work with the faculty and administration to evaluate and improve the quality of the program.

External Review

The proposal was reviewed by three external reviewers: Professor David Gries at the Department of Computer Science at Cornell University; Professor Michael J. Quinn at the Department of Computer Science at Oregon State University; and Professor James M. Coggins at the Department of Computer Science at The University of North Carolina at Chapel Hill. All three of the reviewers shared their strong support for the proposed program.

Professor Gries commented, *"I believe that computer science is just as much a science as an engineering discipline and giving students a choice between a BA and BS degrees is almost the only way to accommodate the two perspectives on computer science at the undergraduate level. An engineering curriculum in computer science can be too confining for many students, that by their very nature are not suited for engineering — although they can do well in computer science. BA degrees are usually more flexible and broad. They allow (or force) the student to develop knowledge/proficiency in another field in which computing expertise must be applied — from a science to business and economics to the humanities and arts. Computer Science at Cornell belongs to both the College of Engineering and the College of Arts and Sciences. And we therefore have the equivalent of WSU's BA and BS degrees in Computer Science. Our two degrees serve two different kinds of students. We see no difference in the 'marketability' of students graduating with the two kinds of degrees. Both are in high demand."*

Professor Michael J. Quinn stated, *"In my opinion the proposed program addresses a well-documented need and will be attractive to both students and employers. The traditional BS program prepares students well for engineering-oriented careers, but does not prepare them well to develop business-oriented software. The Department of Computer Science at Oregon State University is putting forward a related proposal."*

Professor James M. Coggins reported, *"The proposed program addresses well-documented needs of our society and significant demand from students. The proposed program of study follows established guidelines developed by relevant professional societies. The requirement of an academic minor meets the need to guarantee that the realizations of a more flexible program still meet high academic standards."*

In addition, the proposal was shared with the other public baccalaureate institutions. Central, Western, and Eastern have written letters of support for the program. These institutions and the external reviewers also raised a number of questions about the program that WSU has satisfactorily addressed.

COST OF PROGRAM

The BA in Computer Science will be supported by internal reallocation. Appendix B summarizes the estimated program costs. The costs at full enrollment are reasonable to other upper-division computer science programs, about $7,829 per FTE student.

STAFF ANALYSIS

The proposal is based on regional and workforce needs that WSU has carefully assessed. Additionally, there is keen employer demand for and student interest in the program. Last, but not least, resources are already in place for the most part to support the program, and the costs are reasonable.

STAFF RECOMMENDATION

The Washington State University proposal to establish a Bachelor of Arts in Computer Science at the Pullman, Tri-Cities, and Vancouver campuses is recommended for approval, effective summer 1999.

APPENDICES

APPENDIX A   Program of Study
APPENDIX B   Program Costs

For a copy of the appendices, please call the HECB at (360) 753-7830.

RESOLUTION NO. 99-12

WHEREAS, Washington State University has requested approval to establish a Bachelor of Arts in Computer Science at its Pullman, Tri-Cities, and Vancouver campuses; and

WHEREAS, The program addresses the critical need for computer science professionals in the public and private sectors; and

WHEREAS, Student interest in the program is keen; and

WHEREAS, The program of study and resources are adequate to accommodate student needs; and

WHEREAS, The three external reviewers shared their strong support for the program and attested to its quality; and

WHEREAS, The costs are reasonable for offering the program;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves the Washington State University request to establish a Bachelor of Arts in Computer Science at its Pullman, Tri-Cities, and Vancouver campuses, effective summer 1999.

Adopted:

April 14, 1999

Attest:

_____
David Shaw, Secretary

_____
Larry Hanson, Member

Washington State University Proposal to Establish a Bachelor of Science in Computer Science at Vancouver

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EXECUTIVE SUMMARY

Washington State University proposes to offer a **Bachelor of Science in Computer Science** at its Vancouver branch campus. The program is an extension of the undergraduate program in computer science on the WSU-Pullman campus, with an emphasis in computer software and hardware design. It will be complemented by a Bachelor of Arts in Computer Science, which WSU is also proposing to offer at this time.

Program participants are expected to be drawn from the **100 students** who will complete a two-year degree in computer science at the local community colleges, as well as employees in the southwest region of Washington who want a bachelor's degree in order to advance in their careers. They will acquire the knowledge and skills necessary to meet the booming needs of the computing industry.

The **diversity initiatives** for the proposed program reflect WSU's commitment to serve students of color and women, in particular. The **assessment initiatives** reflect the expected student learning outcomes articulated by the Computing Sciences Accreditation Board.

The BS in Computer Science will be funded by new state funds and internal reallocation. It will be supported by a core of new resident faculty and complementary adjuncts. The cost of this program should be about **$8,967 per FTE student.**

STAFF RECOMMENDATION

The Washington State University proposal to establish a Bachelor of Science in Computer Science at the Vancouver branch campus is recommended for approval, effective summer 1999.

Washington State University Proposal to Establish a Bachelor of Science in Computer Science at Vancouver

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April 1999

INTRODUCTION

The School of Engineering and Computer Science at Washington State University proposes to extend the Bachelor of Science in Computer Science to the WSU Vancouver campus. The degree is currently offered at the WSU Pullman and Tri-Cities campuses and is in high demand at both of these locations. It is expected that the program will be very popular on the WSU Vancouver campus as well. The primary goal of the program is to produce graduates who will become successfully employed in companies and organizations which use or design computers and software. A secondary goal is to prepare students for graduate work in computer science.

PROGRAM NEED

Definition

Computer Science deals with the theory and practice of organizing, representing, manipulating, and presenting information in an electronic processing environment.

Relationship to Institutional Mission

WSU, as a land grant institution, emphasizes the development of programs in engineering, applied sciences, agriculture, and veterinary medicine. The discipline of computer science, which has its origins linked to electrical engineering and mathematics, has evolved over the past 50 years. Today, virtually all comprehensive universities offer one or more degrees in computer science.

Relationship to Program Plan

In April 1998, the HECB granted pre-approval for the development of a full proposal.

Relationship to Other institutions

The proposed BS in Computer Science will be the only program of its nature available in the southwest region of Washington. It will be complemented by a BA in Computer Science, which WSU is also seeking HECB approval for at this time.

Occupational Demand

Computerized systems are essential to almost every field and are continuing to evolve. As computer applications have increased in number and complexity, so has the need for well qualified personnel in computer systems hardware and software.

The demand for entry-level and experienced computer science professionals is extremely strong in the Vancouver/Portland region. Today, this region's "silicon forest" is recognized as one of the major areas in the country specializing in high-technology research and development, design, and manufacturing. One of the state's strongest economies is in the Vancouver area due to a booming electronics industry and an expanding services and trade sector. Several of the larger companies in the region that employ computer science specialists include Tektronics, Hewlett-Packard, Intel, Sharp, Sequent, Laboratories of America, and Shin-Etsu Handotai (SHEA) of America. It is common to find several pages of employment ads in *The Sunday Oregonian* advertising about 200 positions for computer science professionals.

The demand is also high across the state and the nation.

- According to *Washington's 1997 Labor Market and Economics Report, "Business services generally and computer and data processing specifically will unquestionably drive the sector with anticipated annual growth rates of 4.4 percent. Services is projected to be the strongest performer, thanks to the computer and software component of business services. Occupationally, new job creation is projected to be strongest in the professional and technical service fields."*

- According to *The Federal Bureau of Labor Statistics 1998-99 Occupational Outlook Handbook, "Computer scientists, computer engineers, and systems analysts are expected to be the three fastest growing occupations through the year 2006. Growth will be driven by very rapid growth in computer and data processing services, which is projected to be the fastest growing industry."*

Student Interest

Student interest in the program is high. Clark College and Lower Columbia College report that they have over 100 students who are pursuing a computer science major. Companies and organizations in Clark County also report that they have many employees who are interested in taking advanced computer science courses for professional development and to complete a bachelor's degree.

PROGRAM DESCRIPTION

Student Learning Outcomes

The specific student learning outcomes for this program are to graduate computer science professionals who are able to:

- Understand essential concepts of computer systems from both a software and hardware standpoint.
- Be proficient in the design and development of computer software.
- Use mathematical concepts and tools in the development of computational systems.
- Understand the scientific foundations of the major.

Program of Study

Appendix A presents the program of study for the BS in Computer Science. It will be based on the curriculum offered at WSU Pullman. The main difference between the two offerings is that WSU Vancouver will rely on transfer students from other institutions that have completed the first two years of the program.

Students will be required to complete 126 semester credits which include: 1) a mathematics and science foundation; 2) a core of basic and advanced knowledge in computer science; and 3) a set of electives that focus on a select area of computer science.

Students

Program Size. It is expected that the program will serve 20 FTE students (30 headcount) in fall 1999, and reach full size of 60 FTE students (90 headcount) by fall 2002.

Time-to-Degree. The program is designed so that full-time students will be able to complete the degree requirements in four years; two of those years in attendance at WSU Vancouver.

Diversity

WSU has an institution-wide commitment to increasing diversity amongst its personnel and student body. The School of Electrical Engineering and Computer Science is fully supportive of WSU's many diversity initiatives. The School has recently secured funding for an endowed scholarship for women in computer science. Faculty and staff at WSU Vancouver will be expected to work aggressively to recruit and retain a diverse group of majors in computer science.

Resources

Personnel. The Computer Science Accreditation Commission states the standard requirement for a computer science program is a minimum of five FTE faculty, of which four should be full-time. Currently, a position is budgeted for a Program Coordinator who will administer the program and provide instruction on a half-time basis. Four additional faculty will be hired between fall 1999 and fall 2002. In addition, adjunct faculty from local colleges and industry will support the program in unique curricular areas. Administration and support services will be provided by a total of 1.25 FTE staff, including two part-time administrative and two part-time support staff.

Library. The WSU Vancouver library will build a core computer science collection and borrow supplementary materials from other WSU campuses and local libraries. The cost associated with this basic library collection is $25,000 per year during the first four years of the program.

Facilities and Equipment

Existing facilities are adequate to support the program until spring 2001. A new Engineering/Life Sciences Building, which will provide an additional computer science laboratory and faculty offices, will open in fall 2001. The School is also encouraging personal ownership of computers by all majors in the School. It is anticipated that computer ownership by students will reduce the need for institutional support for additional laboratories and general purpose computers.

QUALITY OF PROGRAM

Accreditation

The proposed extended baccalaureate degree program in computer science at WSU Vancouver will seek accreditation by the Computer Science Accreditation Commission (CSAC), an accrediting agency established by the Computing Sciences Accreditation Board (CSAB). Currently, the BS in Computer Science at WSU Pullman is accredited by CSAC

Assessment

In addition to meeting the standards established by CSAC, the following program assessments will be employed:

4. End-of-Program-Assessment: Graduating seniors will be surveyed to learn their opinions of the strengths and weaknesses of the faculty and program and suggestions for change and improvement.

5. Graduate Tracking: Program graduates will be tracked. Their employers and supervisors will be surveyed to determine the preparedness and overall ability of WSU graduates.

6. Advisory Council: An Advisory Council will be formed of representatives from industry in the region that hire computer science personnel. This group will work with the faculty and administration to evaluate and improve the quality of the program.

External Review

Since the proposed program represents a slight modification of WSU's existing BS in Computer Science, an external review was not required. However, the proposal was shared with the other public baccalaureate institutions. Central, Western, and Eastern have written letters of support for the program. These institutions also raised a number of questions about the program that WSU has satisfactorily addressed.

COST OF PROGRAM

The BS in Computer Science will be supported by new state funds and internal reallocation. Appendix B summarizes the estimated program costs. The start-up costs are high due to one-time expenditures for equipment, faculty, and infrastructure. The costs at full enrollment are comparable to other upper-division computer science programs; about $8,967 per FTE student.

STAFF ANALYSIS

The proposal is based on regional and workforce needs that WSU Vancouver has carefully assessed. Additionally, the program addresses the need to provide upper-division computer science educational opportunities for time-and-placebound individuals. Last, but not least, the program of study and related assessments are modeled after the Computer Sciences Accreditation Commission's standards, thus assuring quality instruction.

STAFF RECOMMENDATION

The Washington State University proposal to establish a Bachelor of Science in Computer Science at the Vancouver campus is recommended for approval, effective summer 1999.

APPENDICES

APPENDIX A   Program of Study
APPENDIX B   Program Costs

For a copy of the appendices, please call the HECB at (360) 753-7830.

RESOLUTION NO. 99-13

WHEREAS, Washington State University has requested approval to establish a Bachelor of Science in Computer Science at its Vancouver branch campus; and

WHEREAS, The program addresses the critical need for computer science personnel in the public and private sectors; and

WHEREAS, Student interest in the program is high; and

WHEREAS, The program of study and resources are sufficient to accommodate student needs; and

WHEREAS, The costs are reasonable for offering the program;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board approves the Washington State University request to establish a Bachelor of Science in Computer Science at its Vancouver branch campus, effective summer 1999.

Adopted:

April 14, 1999

Attest:

_____
David Shaw, Secretary

_____
Larry Hanson, Member

Software Alliance Presentation

April 1999

EXECUTIVE SUMMARY

Since January, the HECB has been meeting regularly with citizens across the state to determine higher education needs and issues for incorporation into the 2000 Master Plan. A recurring theme in meetings with employers is the need for workers who can meet the demands of an increasingly automated and computerized workplace. This is particularly true for the high-tech and electronic industries whose needs range from a minimum of vocational training to post graduate studies in computer technology.

Last summer the Washington Software Alliance (WSA) conducted a survey to document the current and anticipated hiring needs of Washington's software industry. As part of the project — conducted by Northwest Policy Center — the WSA sought to determine whether Washington State was producing the number of graduates in computer science and related degrees to meet demand in the software job market.

At the April 14 meeting of the Higher Education Coordinating Board, Ken Myer, Co-Chair of the Washington Software Alliance and Regional Manager for IBM, will present the WSA survey findings.

Spokane-Area Higher Education Services Study: Eastern Washington University Final Program Plan

EXECUTIVE SUMMARY

BACKGROUND

Substitute Senate Bill 6655, directs the Higher Education Coordinating Board (HECB), Eastern Washington University (EWU), and Washington State University (WSU) to examine fully how the state can best use its public investment in higher education in Eastern Washington and the Spokane area and continue to provide the highest quality for students. This legislation directs responsibilities to the HECB, EWU, and WSU for refocusing public higher education in the greater Spokane area.

In December 1998, the HECB granted conditional approval for *EWU's Mission and Operating Plan* pending the April 1, 1999, completion of:

1) An analysis of Spokane-based programs that will be returned to Cheney, discontinued, or continued to be offered in Spokane because of "documented demand, unique partnerships, and demonstrated efficiency," as stated in SSB 6655;
2) An overview of contemplated degree programs in future years, both at the main campus and in Spokane; and
3) A discussion of centers of excellence for EWU's main campus

EWU Spokane Program Review Summary

- Continue 20 programs in Spokane that serve 1,569 majors.
- Eliminate 1 program that serves 6 majors.
- Move 19 programs to Cheney to serve 205 majors.
- Designate the Honors Program, Creative Writing Program, and Music Program as centers of excellence.
- Offer the six Spokane-based business programs at Cheney as well.

ANALYSIS

SSB 6655 requires HECB approval of EWU programs to be offered in Spokane.

1) Seventeen Spokane-based programs proposed to continue in Spokane appear to meet the HECB and SB6655 review criteria. They will maintain EWU's high level of service in Spokane.
2) **Three Spokane-based programs do not appear to meet the HECB review criteria**: BA in Interdisciplinary Studies-Prior Learning Option, MS in Communications, and MFA in Creative Writing.

3) The 19 Spokane-based programs proposed to move to Cheney appear to meet the HECB and SB6655 review criteria. They will minimally increase the level of service and facility utilization on the Cheney campus.

4) The designated centers of excellence show promise to enhance EWU enrollments in Cheney and reaffirm the university's reputation of academic excellence. It appears that the MFA in Creative Writing may be more appropriately housed on the Cheney campus with the undergraduate program in creative writing.

5) EWU residential students will have greater access to business programs on the Cheney campus.

RECOMMENDATIONS

At the April 14, 1999, Higher Education Coordinating Board meeting, HECB members should take appropriate approval action on Eastern Washington University's final program plan. HECB action is necessary in order for:

a) Washington State University to complete the Management Plan for Riverpoint by June 1, 1999;

b) Washington State University to complete the Spokane-Area Higher Education Services Market Analysis by June 30, 1999; and

c) The Higher Education Coordinating Board to determine the disposition of the Spokane Center by June 1, 1999.

1) At the April 14, 1999, Higher Education Coordinating Board meeting, **Eastern Washington University is requested to clarify how the following programs meet the SSB 6655 criteria** as defined by the HECB (documented demand, unique partnerships with other Spokane-based colleges and universities, demonstrated efficiency): BA in Interdisciplinary Studies – Prior Learning Option, the MS in Communications, and the MFA in Creative Writing. Further, the HECB requests that EWU clarify why it is in the best interest of the state to continue these three programs in Spokane rather than move them to the Cheney campus to enrich the teaching and learning environment for students and faculty alike. As noted in the HECB December 1998 review of EWU's final operations plan, *...Eastern Washington University may serve students at the Riverpoint Park, but the bill states that the residential mission of EWU in Cheney should be strengthened, with a focus on the excellence of its primary Cheney campus.*

2) **Approval is recommended for the Eastern Washington University centers of excellence: the Honors Program, the Creative Arts Program, and the Music Program.** At the April 14, 1999, Higher Education Coordinating Board meeting, Eastern Washington University is requested to clarify why it is not more appropriate to establish the Creative Writing center of excellence, in its entirety, on the Cheney campus.

Spokane-Area Higher Education Services Study: Eastern Washington University Final Program Plan

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BACKGROUND

Substitute Senate Bill 6655, directs the Higher Education Coordinating Board (HECB), Eastern Washington University (EWU), and Washington State University to examine fully how the state can best use its public investment in higher education in eastern Washington and the Spokane area and continue to provide the highest quality education for students. This legislation directs responsibilities to the HECB, EWU, and WSU for refocusing public higher education in the greater Spokane area.

The HECB completed its preliminary higher education and economic needs assessments in September 1998. Final reports from WSU and EWU on their plans for redefining and refocusing their missions and operations were delivered to HECB on October 15, 1998, for review and approval. At its December 7, 1998, meeting, the HECB granted conditional approval for the EWU program plan, pending the April 1, 1999, completion of:

- The EWU comprehensive review of its Spokane program offerings;
- An overview of contemplated degree programs at EWU in future years, both at the main campus and in Spokane; and
- A discussion of centers of excellence

EWU is commended for its diligent work. Program review is a critical and challenging assignment for any university. It involves the entire academic community and impacts departments, administrators, students, and faculty. EWU has taken positive steps to refocus higher education services at its main campus in Cheney, and in the region.

The following report presents an overview and analysis of EWU's final program plan and related HECB recommendations. Appendix A includes a copy of EWU's final program plan.

EWU SPOKANE-BASED PROGRAM REVIEW

EWU currently offers 40 degree programs (excluding health sciences programs) in Spokane. They were reviewed by an EWU institutional committee consisting of the Vice President for Academic Affairs and Provost, Vice Provost for Undergraduate Affairs, Dean of Graduate Studies, President of the Faculty Organization, and faculty. The committee was charged with determining which programs would be returned to Cheney, discontinued, or continued to be offered in Spokane, per the direction of SSB 6655, as well as HECB actions in September and December of 1998.

However, in conducting this analysis, EWU evaluated each program using two sets of criteria:

HECB/SSB 6655 Criteria	EWU Spokane-based Program Criteria
documented need	**health sciences**
unique partnerships	**business and technology**
demonstrated efficiency	**specifically urban-focused programs**
other considerations	**professional programs for working adults**
	programs with unique partnerships

In September 1998, and again in December 1998, the HECB specifically defined the general SB6655 review criteria:

- **In the HECB September 1998** review of the EWU preliminary program plan "unique partnerships" were defined as partnerships with other Spokane-based colleges and universities. In this same review the HECB stated that EWU should use the SSB 6655 program-location criteria in reviewing its Spokane-based programs. SSB 6655 seeks a limited number of unique EWU programs: programs that are not suitable for the Cheney campus, that meet a critical need, or that are designed as collaborative programs with other Spokane-based institutions.

- **In the HECB's December 1998** review of the EWU final program plan, the Board specified that an analysis of Spokane-based program offerings should be based on documented demand, unique partnerships, and demonstrated efficiency. The HECB did not include an "other consideration" criteria.

EWU Spokane Program Review:

As illustrated in the following table, EWU is proposing to:

- **Continue in Spokane 20 programs that serve 1,569 majors.** These programs are in business and related fields, urban and regional planning, health sciences-related fields, interdisciplinary studies, computer science, education, communications studies, and creative writing.

- **Eliminate in Spokane one program that serves six majors**, the BAB in Administration Office Management.

- **Move to Cheney 19 programs that serve 205 majors.** These programs include the BA/BS in Communications Studies, BA in Government, BA in Journalism, BAB in Operations Management, BAE in Business Education, MS in Psychology-Clinical, MS in Psychology-Mental Health, and MS in Psychology-School Counseling, and the M Ed with options in Early Childhood Education, Literacy Specialist, Adult Education, Foundations of Education, Instructional Media and Technology, School Library Media, Science Education, Social Studies Education, Supervision Clinical Teaching.

- **Continue to offer in Spokane six business programs,** which will be offered in Cheney as well.

EWU SPOKANE-BASED DEGREE PROGRAMS

Degree Program	Majors	Stay in Spokane	Move to Cheney	Eliminate
BA Communications Studies	32		X	
BS Communications Studies	26		X	
BA Government	0		X	
BA Journalism	29		X	
BAB Economics	7		X	
BAB Operations Management	10		X	
BAE Business Education	21		X	
MS Psychology-Clinical	0		X	
MS Psychology-Mental Health	21		X	
MS Psychology-School Counseling	13		X	
BAB Administrative Office Management	6			X
BA Health Services Administration	40	X		
BA Interdisciplinary Studies-Prior Learning Option	171	X		
BA Urban & Regional Planning	55	X		
BAB	900			
Accounting		X		
Finance		X		
General Management		X		
Human Resource Management		X		
Management Information Systems		X		
Marketing		X		
BS Computer Science	27	X		
MBA	51	X		
M Ed Special Education	19	X		
M Ed Administration-Principal	14	X		
M Ed Curriculum & Instruction	78	X		
M Ed Early Childhood Education	13		X	
M Ed Literacy Specialist	11		X	
M Ed Adult Education	11		X	
M Ed Foundations of Education	1		X	
M Ed Instructional Media & Technology	0		X	
M Ed School Library Media	5		X	
M Ed Science Education	5		X	
M Ed Social Studies Education	0		X	
M Ed Supervision-Clinical Teaching	0		X	
MFA-Creative Writing	46	X		
MPA	45	X		
MS Communications	40	X		
MS Computer Science	16	X		
MSW	45	X		
M Urban & Regional Planning	22	X		

ANALYSIS

All of the programs EWU proposes to continue to offer in Spokane appear to meet the HECB and SSB 6655 review criteria (documented need, unique partnerships with other Spokane-based colleges and universities, demonstrated efficiency), with the exception of three programs: BA in Interdisciplinary Studies-Prior Learning Option, MS in Communications, and MFA in Creative Writing. Based on the information available at this time, these programs appear to meet EWU's Spokane-based Program Criteria (professional programs for working adults, industry partnerships), rather than the HECB and SSB 6655 criteria cited above. For example:

- EWU indicates that the BA in Interdisciplinary Studies-Prior Learning Option provides courses that are part of other degree programs offered in Spokane. In this program adult learners have the flexibility to self-select courses while fulfilling their personal and professional goals. This program is a professional program for working adults.

- EWU reports that the MS in Communications cooperates with the WSU Morrow School of Communications and professionals from three Spokane communications firms teach some courses. The Spokane location provides students access to organizations for case studies. The MS in Communications is a specifically urban-focused professional program for working adults.

- EWU indicates that the MFA in Creative Writing requires students to complete internships with one of the program's three special projects, all involving unique Spokane partnerships. These projects include the literary journal Willow Springs, and three literary presses (EWU PRESS, LYNX House Press, and the Lost Horse Press). EWU believes that the urban focus of the program is one of its major attractions to students who matriculate from across the nation. Informal discussions have been initiated about forming a partnership with WSU.

The HECB and the Legislature expected that this review would lead to a greater utilization and enrichment of the Cheney campus. The 20 programs that EWU proposes to continue in Spokane will maintain EWU's high level of service at that location; however, the 19 programs proposed to move to Cheney will minimally increase the level of service at EWU's main campus.

EWU FUTURE PROGRAM PLAN

The future program plan was requested by the HECB. This request was not included in SSB 6655. The plan was generated from recommendations by Eastern faculty. EWU reports that it is not based on comprehensive higher education needs analyses or market analyses. Based on the results of the market analyses being conducted by WSU under the auspices of the Spokane-Area Higher Education Services Study and any additional needs analyses, EWU will revise its future program plan accordingly. EWU also will revise its future program plan accordingly, based on the HECB review processes and Inter-Institutional Committee for Academic Program Planning (ICAPP) protocols.

As illustrated in the following table, EWU is proposing to:

- **Offer three new programs in Cheney and Spokane.** The bachelor's programs are in technology management, accounting information systems, and molecular pharmacology/toxicology. The technology management and molecular pharmacology/toxicology programs would serve as feeder programs to WSU Spokane's graduate programs in these disciplines.
- **Offer two new majors with WSU in Spokane.** The bachelor's programs are in real estate and risk management and insurance. Students will complete the business core at EWU and the major at WSU. They will choose the university from which they receive their degrees.
- **Offer four new programs in Cheney.** The bachelor's programs are in biotechnology, environmental science, special education, and the master's program is in recreation and leisure services.
- **Consider offering four existing programs at other locations.**

EWU FUTURE PROGRAMS			
Degree	Title	Status	Location
BS	Technology Management		Cheney & Spokane
BAB	Accounting Information Systems	New Program	Cheney & Spokane
BS	Biotechnology	New Program	Cheney
BS	Environmental Science	New Program	Cheney
BS	Molecular Pharmacology/Toxicology	New Program	Cheney & Spokane with WSU
BAE	Special Education	New Program	Cheney
MS	Recreation and Leisure Services	New Program	Cheney
BS	Dental Hygiene	Existing Program	Shoreline CC
BS	Technology-Applied Technology Option	Existing Program	Clark College
MPA	Public Administration	Existing Program	Heritage College
MSW	Social Work	Existing Program	WSU Vancouver
MSW	Social Work	Existing Program	Lewis & Clark State College, Lewiston ID
BAB	Risk Management & Insurance	New Major	Spokane with WSU
BAB	Real Estate	New Major	Spokane with WSU

ANALYSIS

No formal Board action is required at this time. HECB staff will continue to work with EWU to develop a program plan based on documented higher education and market need and demand, that is consistent with EWU's new role and mission, and which reflects the June 1999, WSU Spokane-Area Higher Education Services Market Analysis and subsequent assessments.

CENTERS OF EXCELLENCE

SSB 6655 directed EWU to identify those academic centers of excellence on which Eastern should focus, build, and expand in order to enhance its enrollment and reaffirm its reputation for academic excellence. In the HECB's December 1998 review of the EWU preliminary program plan, the HECB specified that EWU should focus on centers of excellence to attract more students to the *Cheney* campus.

EWU has identified three centers of excellence — **University Honors Program, Creative Writing Program, Music Program** — which meet the following *EWU* criteria:

- The activity revolves around a theme that is relevant to regional needs and is served by multiple programs, disciplines, departments, and institutions.
- The activity has a reputation for excellence that extends beyond the university; faculty involved in the program make significant contributions in areas of research and service.
- The activity has career-focusing opportunities, such as internships and other educational experiences that take advantage of the assets of Cheney's metropolitan location.
- The activity allows opportunities for partnerships with other institutions.

The **University Honors Program** offers a high-quality academic experience to outstanding entering freshman and transfer students. Honors courses are taught by professors with distinguished reputations for their teaching, service, and research. Honors students and faculty participate and plan numerous regional and national conferences. They also participate in internships, and conduct a visit to Europe each spring.

The **Creative Writing Program** (CRWR) is a high-quality, nationally recognized program that offers a BA in English with a concentration in creative writing, and a Master of Fine Arts (MFA) in creative writing, with concentrations in fiction, creative nonfiction, and/or poetry. The undergraduate program is offered in Cheney and the MFA is offered in Spokane. The graduate program attracts about 200 inquiries per year and accepts 20-25 students each fall. The program involves three special projects/partnerships with the Spokane region and community service. EWU and WSU faculty are exploring ways to exchange faculty or courses in creative writing and literature.

The **Music Program** provides high-quality music education for music majors and non-majors. It also exposes community members to the liberal arts tradition of music as part of the human and cultural experience. The Music Program has strong ties to the Spokane Symphony and other Spokane art institutions. The music faculty and alumni comprise about 50 percent of the Spokane Symphony. Additionally, the music faculty work with the local public schools and community colleges.

These centers of excellence are established EWU programs. As financial resources are available, EWU will designate and develop additional centers of excellence.

ANALYSIS

The centers of excellence EWU has designated have the potential to enhance EWU's enrollment and reaffirm the university's reputation of academic excellence. It appears that the MFA in Creative Writing may be more appropriately housed on the Cheney campus with the undergraduate program in creative writing. This would establish a premier graduate program at EWU's main campus.

RECOMMENDATIONS

At the April 14, 1999, Higher Education Coordinating Board meeting, HECB members should take appropriate approval action on Eastern Washington University's final program plan. HECB action is necessary in order for:

a) Washington State University to complete the Management Plan for Riverpoint by June 1, 1999;
b) Washington State University to complete the Spokane-Area Higher Education Services Market Analysis by June 30, 1990; and
c) The Higher Education Coordinating Board to determine the disposition of the Spokane Center by June 1, 1999.

3) At the April 14, 1999, Higher Education Coordinating Board meeting, **Eastern Washington University is requested to clarify how the following programs meet the program location criteria** established in SSB 6655 and reiterated by the HECB (documented demand, unique partnerships with other Spokane-based colleges and universities, demonstrated efficiency): BA in Interdisciplinary Studies – Prior Learning Option, the MS in Communications, and the MFA in Creative Writing. The HECB further requests that Eastern clarify why it is in the best interest of the state to continue these three programs in Spokane rather than move them to the Cheney campus to enrich the teaching and learning environment for students and faculty alike. As noted in the HECB December 1998 review of EWU's final operations plan, *…Eastern Washington University may serve students at the Riverpoint Park, but the bill states that the residential mission of EWU in Cheney should be strengthened, with a focus on the excellence of its primary Cheney campus.*

1.)
2.) **Approval is recommended for the Eastern Washington University centers of excellence: the Honors Program, the Creative Arts Program, and the Music Program.** At the April 14, 1999, Higher Education Coordinating Board meeting, however, Eastern Washington University is requested to clarify why it is not more appropriate to establish the Creative Writing center of excellence, in its entirety, on the Cheney campus.

APPENDIX A   EWU Final Program Plan

For a copy of the appendix, please call the HECB at (360) 753-7830.

RESOLUTION NO. 99 - 09

Whereas, In 1998 the Legislature directed the Higher Education Coordinating Board (HECB), Eastern Washington University (EWU), and Washington State University (WSU) to examine fully how the state can best use its public investment in higher education in eastern Washington and the Spokane area and continue to provide the highest quality education for students; and

WHEREAS, In December 1998 the HECB granted conditional approval for *EWU's Mission and Operating Plan*, pending the April 1, 1999, completion of

1. An analysis of Spokane-based programs that will be returned to Cheney, discontinued, or continued to be offered in Spokane because of "documented demand, unique partnerships, and demonstrated efficiency," as stated in SSB 6655 and further defined by HECB;

2. An overview of contemplated degree programs in future years, both at the main campus and in Spokane;

3. A discussion of centers of excellence for EWU's main campus; and

WHEREAS, The HECB has reviewed the final program plan with EWU, and based on said review has prepared recommendations, dated April 14, 1999, for HECB consideration; and

WHEREAS, EWU has satisfactorily described how each program proposed to be offered in Spokane meets criteria in SSB 6655 for location in Spokane;

THEREFORE, BE IT RESOLVED, That the Higher Education Coordinating Board hereby approves Eastern Washington University's final program plan, submitted April 1, 1999; and

BE IT FURTHER RESOLVED, That the Higher Education Coordinating Board commends and expresses its sincere appreciation to the EWU higher education community. Program review is a critical and challenging assignment. EWU has taken positive steps to refocus higher education services at its main campus in Cheney, and in the region.

Adopted:

April 14, 1999

Attest:

_____

David Shaw, Secretary

_____

Larry Hanson, Member

Legislative Update

April 1999

EXECUTIVE SUMMARY

The board will hear a report on the progress of the 1999 legislative session. Materials, if necessary, will be available during the meeting.